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PLATE I. THE LIONS' GATE (MYCENAE)
From a photograph by Professor Colwell

THE MYCENAEAN AGE

A STUDY OF THE MONUMENTS AND CULTURE OF PRE-HOMERIC GREECE

BY

DR. CHRESTOS TSOUNTAS

EPHOR OF ANTIQUITIES AND DIRECTOR OF EXCAVATIONS AT MYCENAE

AND

J. IRVING MANATT, PH. D., LL. D.

PROFESSOR OF GREEK LITERATURE AND HISTORY IN BROWN UNIVERSITY

WITH AN INTRODUCTION BY DR. DÖRPFELD

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PREFACE

THIS work is at once old and new, and I cannot fairly launch it afresh without some account of its origin.

Ten years ago a young Greek archaeologist, Chrestos Tsountas, was commissioned by his government to continue the exploration of Mycenae which Dr. Schliemann had begun. It could hardly have seemed an inspiring task to glean after the great explorer who had dazzled the world with the treasure of the Royal Tombs; but it was a task that demanded thorough training, keen insight, and unlimited patience. Armed with these qualities, Dr. Tsountas went to work and a busy decade has passed without seeing the end of it. Meantime he has restored to us the Palace of the Pelopid kings; he has unearthed and studied the humbler abodes of their retainers and menials; he has traced the fortress walls through all the stages of construction and extension, and discovered the secret waterway which enabled the citadel to hold out against a siege; in short, he has laid bare the old Achaean capital in its great enduring features, and has thus revealed to modern eyes the typical Acropolis of the Heroic Age. More than that, he has explored the lower town and particularly the clan or village cemeteries, each composed of a group of rock-hewn tombs whose disposition and contents have shed new light on the civic and religious life of the time. While patiently pursuing this great task, he has now and again

taken a little archaeological diversion — always with brilliant results. Thus in 1889 he excavated the beehive tomb at Vaphio (near Sparta), and there recovered those unrivaled masterpieces of Mycenaean art, the Vaphio cups. A year later he crossed Taygetus, and, under the height crowned by the Homeric Gerenia, he explored another *tholos*, which yielded the curious figures of lead known as the Kampos statuettes. Still more recently he has made more than one fruitful reconnoissance on the island of Amorgos.

While thus establishing his fame as an explorer, Dr. Tsountas proved himself an able expositor, as well, in the reports and other papers contributed to the archaeological journals of Greece and Germany; but it was not until three years ago that he wrought into a volume the accumulated spoil of his spade and his studies. His "Mycenae and the Mycenaean Civilization"[1] was not simply a record of his own finds; it went further and undertook for the first time a systematic handling of the whole subject of prehistoric Greek culture in the light of the monuments. The book was warmly welcomed by archaeologists; it was crowned by the French Society for the Promotion of Hellenic Studies; and in the subsequent literature of the subject its author has probably been quoted as often as any other living writer.

The present volume is the outgrowth of that work of Dr. Tsountas. When it came from the Athenian press in the summer of 1893, I had just made my last visits in the Argolid and was embarking for home after a four years' residence in Greece. Reading the new book, as I did, in Greek waters and under the spell of those great heroic

[1] Μυκῆναι καὶ Μυκηναῖος Πολιτισμός. Athens, 1893.

memories, I was deeply impressed with its value, and determined at once to secure its author a wider audience than the little world of modern Greece could afford him. My first thought hardly went beyond an English version; but it soon became apparent that no mere translation, however carefully edited, would answer the purpose in view.

With all its wealth of matter, the method of the book left much to be desired. This was due largely to an uncertainty of plan, for Dr. Tsountas had begun writing a special work on Mycenae for a series of "Ancient Greek Cities," and (on the publisher's failure) had widened his range to cover the field of Mycenaean culture.[1]

Then, too, further study convinced me that the subject-matter called for a thorough re-handling. Dr. Tsountas had written for a public so different — a public with the main spoil of the Mycenaean world on daily view in their midst and the great Mycenaean centres but a few hours' journey from their doors — that he could take for granted much that the more distant audience must be told.

Moreover, the three years since he wrote have been among the most fruitful in the whole history of Mycenaean exploration. Dr. Tsountas himself has gone on with his great task at Mycenae; Noack and de Ridder have explored the mighty Minyan works in and about Lake Copaïs; Staës and others have brought to light half a dozen prehistoric settlements in Attica and the adjacent islands; Evans has made known the results of his memorable researches in Crete; and, to crown all, Dörpfeld has laid bare the walls and towers, the houses and (possibly) a

[1] Thus his second chapter on "The City of Mycenae" belongs distinctly to the special work as first planned, while our new chapter on "The Fortress City" has been adapted (so far as it could well be) to the more general plan.

temple, of Homer's Troy. And, while the spade has been thus busy and effective, the literature of the subject has been enriched by most important contributions, as a glance at the notes to the present volume will show. Among systematic works, we may instance here Perrot and Chipiez' volume on Mycenaean Art; and, among special studies, Reichel's masterly monograph on Homeric Armor.

In this rapid march of Mycenaeology, it is obvious that a book even three years old must be behind the times; and, accordingly, we have undertaken a measurably new one. The bulk of the material Dr. Tsountas has furnished to my hand in his "Mycenae," enriched by his own manuscript annotations, together with a new paper on Mycenaean Writing (embodied in Chapter XI) and copious notes on recent excavations (Appendices A and C). To this material I have added whatever was found available either in original sources or in recent literature; and, combining the whole with a free hand, I have aimed to write an English book, thoroughly adapted to our own public, which should present a reasonably complete survey of Mycenaean culture and register the main results of Mycenaean research down to the present time. As far as practicable, I have followed the lines drawn by Dr. Tsountas in his original work, but I have not hesitated to adopt an order of my own wherever clear method seemed to require it. As regards his matter, I have not willingly sacrificed anything which I felt warranted in retaining in view of the new plan and the new public; and, in particular, I have sought to represent with all fidelity his distinctive views. True, a just regard for proportion has constrained me to abridge the argument in some cases (for example, on the question of the Grave Circle at Mycenae), especially by the omission

of detail which seemed proper to a demonstration on the spot rather than to a work addressed to readers at large.

To draw the line sharply between Dr. Tsountas' part and my own in the work would be no easy matter. While the main substance of the book is his, there are few pages of it to which I have not made some material contribution. In particular, I have supplied matter introductory to many of the chapters, intended at once to avoid abruptness and to secure a closer articulation of the whole. The chapter on Arms and War I have rewritten in the light of Reichel's important study; and the concluding chapter on the Mycenaean World and Homer — while taking up some of the material of Dr. Tsountas' *epilogos* — is mainly my own in substance as well as form. I have also added Appendix B, and the account of the "Mykenaean Treasure" in Appendix C. Less than one fourth of the illustrations and none of the photographic plates are from the original work. While the proofs of the new book have been in Dr. Tsountas' hands and he has taken no exception to any point, he cannot of course be held to that degree of responsibility which a closer collaboration would warrant. In justice to him and to the reader, I note below some principal changes in the evolution of the new book from the old.[1]

[1] For reasons stated in the proper connection (page 83) I have placed the chapters on the Tombs immediately after those concerned with military and civil architecture, thus leaving the subject of Dress ("the narrower dwelling") and Armor to follow. I have also subdivided the matter so that Chapters V–VI replace Tsountas' Chapter 5; and Chapters VII–VIII his Chapter 3. I have also inverted his order in which the subject of Religion preceded that of Art, and introduced the new chapter on Writing between the two. The original chapter on "Art and Chronology," as covering three distinct subjects, I have broken up into as many chapters (IX, X, XIII), and redistributed the matter accordingly. To facilitate comparison, I add a detailed equation of the original chapters (designated by Arabic numerals) with the

As already stated, the original plan contemplated little more than an English version of Dr. Tsountas' "Mycenae," and it was so announced. In pursuance of this plan, the first draft of a translation was made by Dr. Barker Newhall, sometime member of the American School at Athens, and this I undertook to edit and publish as our joint work. The result of the undertaking has been anticipated. The translation was given up; and, in view of the very different character which the book has assumed, it is Dr. Newhall's judgment that his name cannot properly appear on the title-page. For all that, his version was a great help to me in my preliminary work; and I am further indebted to him for assistance in collecting the literature and gathering illustrations, as well as for the full index which he has prepared.

Among the first to whom my acknowledgments are due, I have to thank the American Minister at Athens, Mr. Eben Alexander, for his good offices there.

On this side, I owe much to Professor Daniel Quinn, of the Catholic University at Washington, whose intimate acquaintance with modern Greek — an intimacy hardly shared by any other American — has been freely placed at my service, and has lightened my labors on Greek manuscripts as well as on Greek texts.

Professor John H. Wright, of Harvard University, has given me the benefit of his ripe learning and perfect taste in the criticism of the concluding chapters; and I deeply regret that a criticism so helpful should not have been

new (in Roman): 1 = I; 2 = II; 3 = III–IV; 4 = VII–VIII; 5 = V–VI; 6 = XII; 7 = IX, X, XIII; 8 = XIV; 9 replaced by XV; new, XI and Appendices A, B, C. I had expected more fully to account for the new order in an introduction, which fortunately has not been left for me to write; but I trust the order may sufficiently vindicate itself.

secured at an earlier stage and for the entire work. Two comrades of my Athenian days, Messrs. F. B. Sanborn and S. J. Barrows, have followed the work with unflagging interest, and their trained literary judgment has been of great service to me. Of my own associates at Brown University, Professor F. G. Allinson has read most of the book in manuscript or proof, and made many helpful suggestions; and Dr. George A. Williams has lent me assistance which was simply invaluable in preparing the work for the press. My acknowledgments are due also to Professors Wheeler and Bennett, of Cornell University.

In the matter of illustrations, I am indebted to the Council of the Hellenic Society, and their Hon. Secretary, Mr. Geo. A. Macmillan, as well as to Mr. Arthur J. Evans, for permission to reproduce from the "Journal of Hellenic Studies" most of the figures found in Chapter XI and Appendix C; and to Professor R. S. Colwell, of Denison University, who generously allowed us to use his own negatives for some of the choicest reproductions in the volume, — namely, Plates I, III, IV, V, X. The Ephor Staës kindly placed at my disposal advance sheets illustrating objects found by him in his important excavations in Attica and Aegina; and the photographs of the German Archaeological Institute have been freely used. Many of the illustrations were drawn at Athens expressly for this work by Mr. H. B. Warren. Others have been reproduced from the "Ephemeris Archaeologike," "Athenische Mittheilungen," "Bulletin de Correspondance Hellénique," Furtwängler and Loeschcke's "Mykenische Vasen"; while some have been redrawn from the original editions of Schuchhardt and Perrot-Chipiez.

For the use of books I am under great obligations to the

Librarian of Harvard University; to Dr. James M. Paton; to Mr. W. E. Foster, of the Providence Public Library; and, last but not least, to Mr. H. L. Koopman and his assistants at the Brown Library.

The Homeric citations in English are uniformly from Lang, Leaf, and Myers' Iliad and Butcher and Lang's Odyssey.

As I come to date this preface, I am reminded that there could not well be a more auspicious moment for bringing out a work like the present. It signalizes the end of the second decade of Mycenaeology. Just twenty years ago to-day the wires flashed from Mycenae to King George's palace at Athens Schliemann's jubilant message that he had found the Royal Tombs, with their heroic tenants still masked in gold and their heroic equipage about them. That find was the crowning historical revelation of our time, and out of it has sprung a science whose progress is hardly less marvelous than its origin, — a science which has already in great measure restored the landmarks of pre-Homeric Greece, and with them the real background of the Homeric poems. It was but fitting that in this twentieth year of the new science we should welcome to our shores one of its foremost masters and learn from his lips the fascinating story of its last great conquest and his own — the recovery of Homer's Troy. Dr. Dörpfeld's mission here was more than a triumph; it was an inspiration, and it must profoundly and permanently influence the further direction of the study of antiquity among us. And I am sure that every one who has ever come under the spell of his winning personality will seem to hear his voice again in the Introduction which — in the midst of all his engage-

ments — he has yet found time to write for this volume. That it is earnest and critical, and contests more than one position taken up in the book itself, only marks it as Dörpfeld's own. It is by virtue of hard knocks that Science moves on, and her good soldiers are ever ready to give and take. Tsountas and Dörpfeld may not see eye to eye on every point in controversy, but none the less they march shoulder to shoulder in the forward movement of the science to which both alike have made most solid and brilliant contributions.

J. Irving Manatt.

Brown University,
Providence, November 28, 1896.

INTRODUCTION

I AM very glad to comply with the request of my friend, Professor Manatt, by writing an introduction to the present volume. The work of Chrestos Tsountas on "Mycenae and the Mycenaean Civilization" is recognized on all hands as one of the best and most instructive in recent archæological literature; and in this new form, greatly enriched and amply illustrated, it must win many new friends. To a work so excellent — happily summing up as it does all that the latest excavations and researches have taught us of life and art in the early bloom of pre-Homeric Greece — it affords me peculiar pleasure to be able to make some slight contribution.

Until recently the Homeric poems were our sole source of light upon the civilization of the prehistoric or Heroic Age of Greece. But the pictures which the poet gives us of the Palaces and the life of that age appeared too fanciful to pass for transcripts of reality. For example, who could have believed that the Palaces were actually (as Homer alleges) adorned with friezes of blue glass (*kyanos*)? But the excavations at Tiryns, Mycenae, Orchomenos, and elsewhere — in which Tsountas, as well as Schliemann, has borne a prominent part — have changed our point of view. We now know that in essentials Homer's pictures answer to reality. Accordingly, in an investigation of the culture of the Heroic Age, we may and must base our researches upon the results of those excavations and upon the Homeric

data alike — a method which has been very properly followed in the present work. The agreement between the Homeric descriptions and the actual facts established by the excavations is to be remarked, not only in the Palaces of Tiryns and Mycenae and in the objects found there, but also in the ruins of the Sixth or Mycenaean City of Troy. A short time ago it was still held to be unscientific for any one to look for points of coincidence between the ruins on Hissarlik and the words of Homer, and there may be scholars who still regard such a quest as altogether futile or even reprehensible. But this is no longer the prevailing view.

In my opinion, it may now be considered certain that the allusions of Homer to the scenery of the Troad and to Troy itself harmonize in the main with the facts as determined by the explorations. As regards the buildings of the sixth stratum, I have already (in my work, "Troja, 1893") pointed out certain coincidences which appear specially noteworthy. I may be allowed here to recall these four points: —

1. According to Homer, the Pergamos of Troy was not a level citadel, for near the dwellings was an altar of Zeus ἐν πόλει ἀκροτάτῃ (Iliad xxii. 172). Thus in the poet's view there was a highest point in the citadel, where doubtless stood the two temples of Athena and Apollo, as well as the altar of Zeus. To the acropolis of the Second City such a datum would be entirely inapplicable, for (as the excavations have taught us) its edifices were built on a leveled site. But that the middle and northern part of the Sixth City actually lay higher than the rest is proven beyond a doubt by the strong supporting walls of the buildings we have found. Further, for the Graeco-Roman times the presence of a temple on this spot is an established fact.

2. The structures of Tiryns are built, partly in Cyclopean fashion of more or less huge unwrought stones, partly of sun-dried bricks. At Mycenae, along with walls of this kind, occur sections built of dressed blocks. According to Homer's words, we should have to conceive most of the structures of the Trojan citadel as built in a different manner, *i. e.*, of smoothly hewn stones; for even the dwellings of Priam's sons and sons-in-law were ξεστοῖο λίθοιο (Iliad vi. 244). While this language would have been quite inapplicable to the edifices of Tiryns, it exactly fits the houses at Troy as well as a part of the circuit wall with its towers. This is the more noteworthy, as it has hitherto been thought well-nigh impossible that walls and towers of carefully dressed blocks could have been built in that early age.

3. In the Pergamos of Troy Homer knows quite a number of separate structures, some of them dwelling-houses, some temples, apparently lying close together and yet detached. In the citadel of Tiryns we look in vain for such separate houses; at most a second detached dwelling might be recognized in what is commonly taken for the women's quarter. It is otherwise in the Sixth City at Troy. All the buildings thus far discovered there are, in fact, separate edifices, though but little removed from one another.

4. According to Homer (Iliad vi. 316), the house of Alexandros was composed of three parts, the *thalamos*, the *doma*, and the *aule*. By the *thalamos*, at all events, we are to understand a closed apartment which formed the interior of the dwelling and served also for sleeping quarters. The *doma* is doubtless a general reception-room before the *thalamos*, the ante-room of the dwelling. The *aule* can only be an open court before the house. A similar tripartite arrangement recurs in other simple houses in

the poems, as in the steading of Eumaeus (Odyssey xiv. 5 ff.) and the "hut" of Achilles (Iliad xxiv. 452 f.). In both these passages we read of an open court; of a *prodomos*, where guests were received and, on occasion, slept; and, finally, of an inner chamber with the hearth and with couches. In the Palace, also, as we have it before our eyes at Tiryns and Mycenae, this tripartite disposition is present, to be sure, but it is not so obvious, because each part is *en suite*. The court is a double one; the *doma* is made up of hall, ante-room, and vestibule; and, in place of the simple *thalamos*, we have a special women's quarter with several adjoining rooms.

Now some of the houses found in the Sixth City consist of the same three parts, for there can hardly be a doubt that we are to assume an open court before each of the bipartite temple-like edifices. The large closed apartment in these buildings is apparently the *thalamos;* in the half-open ante-room we may perhaps recognize the *doma*, which would correspond in form to the *tablinum* of the Graeco-Roman house; and, finally, the open court will be the *aule*.

Of course, coincidences of this kind do not amount to a demonstration that the ruins uncovered at Hissarlik actually belong to Homeric Troy, the Pergamos of Priam. But such proof is no longer needed. For, if antiquity well-nigh with one consent cherished the conviction that the Greek Ilion occupied the site of ancient Troy, and if the people of that village as well as its visitors (a Xerxes and an Alexander the Great, a Lysimachus and a Sulla) never doubted that on that spot had once stood the citadel of Priam, although they saw nothing of its ruins and knew nothing of their actual existence deep underground, can we still doubt that the mighty fortress of Mycenaean

times, whose remains have now come to light beneath the Greek Ilion, is actually the Troy of Homer?

But these coincidences do have an important bearing on the elucidation of the Homeric poems and on the problem of their origin. Without any hesitation we may now draw on the ruins of the Sixth City at Troy when we have to describe the buildings and the culture of the age which Homer celebrates. Hence an account of these remains has properly found a place in this work (see Appendix A), thus notably enriching the picture of Mycenaean civilization which it offers.

This picture, of course, can be correct and true to reality only when the results of the excavations are set before us clearly and distinctly, and when there can be no doubt about interpretation or restoration. In the main, indeed, these results as described in the following pages tell but one story. Still there are instances in which the reconstruction proposed seems to me fairly open to criticism; and I can hardly make a better contribution to the present work than by reviewing the questions at issue. In the interest of the reader and of science, the grounds of dissent should be stated, however briefly.

1. In discussing the Royal Graves discovered by Schliemann at Mycenae, Tsountas undertakes to show (page 106) that over these graves a mound or *tumulus* was raised. He believes that he can prove that the circle inclosed by the ring of slabs was not an open precinct or *temenos*, but that the ring was merely a retaining wall for the mound.[1] Against this, I share the generally received opinion that the graves lay in an open *peribolos*, of which the slab-ring formed the inclosing wall.

[1] For Dr. Tsountas' last word on this question, see his reply to Belger in the *Jahrb. des. k. deutsch. Arch. Instituts* for 1895, pp. 143–151. [M.]

This ring consists of a wall of small stones and earth which was faced without and within, as well as covered over, with thin stone slabs. Now, in my judgment, the inner facing would have been altogether unnecessary for a mound, while for an open precinct it was indispensable. Moreover, any architect will bear me out in saying that the wall is not strong enough to have served as a retaining wall for an earth-mound. At all events, had it actually been such a wall, the slabs still in place should have an inclination outwards. Not only is nothing of the kind to be seen, but on the east we distinctly remark the opposite — the slabs lean inward. Finally, in the southern part of the inclosure some of the pavement is still intact with the original layers of soil beneath it. And it shows distinctly that the surface within the circle was not horizontal, but had a gradual rise toward the south, obviously to let the rain-water run off through the entrance on the north. When houses were afterwards built outside the entrance, and the surface there had risen so far that it lay higher than the inside level, the entire inclosure must have been filled up either artificially or by gradual accumulations. Thus, I have no doubt that the graves, originally lying in a group outside the acropolis, were inclosed by means of the slab-ring in a *peribolos*, which thus formed a *heroön* of the ancient kings.

2. Tsountas holds that the great beehive tombs were closed shortly after their construction by filling their avenues with earth. That all these tombs, great as well as small, were once closed is certainly true; the only question is when it was done. As both the great *tholoi* at Mycenae were provided with rich façades and had their wooden doors overlaid with metals, it appears to me more probable that they were not forthwith blocked up. Thus, it is conceivable that the Prince in his lifetime would have a tomb built

for himself and his house, and that this would remain open for many years — until his own death, or even until the death of the last of his line. One thing which has an important bearing on the question, Tsountas does not seem to have given its due weight: it is the fact that the walls, built to block up the two great *tholoi*, are not of the same material as the tombs themselves. Moreover, in the case of the tomb excavated by Mrs. Schliemann, one can clearly see that the closing wall was built later than the dromos walls.

3. The oft-debated question of the existence of a walled lower town adjacent to the Mycenae acropolis, Tsountas answers in the affirmative (page 33), holding as he does that the still extant remains of a town wall are of earlier date than the destruction of the citadel, — that is to say, anterior to the Dorian migration. According to this view the lower town belongs to the Heroic Age, and was walled in as a refuge in time of war for the clans ordinarily dwelling in open villages. But in my opinion the circuit wall of the lower town belongs to a far more recent epoch, namely, that of the Doric temple on the palace ruins, or about the sixth century B. C. For the masonry of the wall is not Cyclopean but polygonal; it is the same masonry which is employed in the later repairs of the fortress wall (see page 27).

4. How were the roofs of the Mycenaean houses formed? Tsountas maintains (page 70) that only the Palace proper had a flat clay roof, while the gable roof was in ordinary use for simple dwellings. I do not share this opinion, but hold that ordinary houses as well as palaces, not only in Mycenaean but in early Hellenic times, were covered with flat clay roofs. True, the gable roof was known in very early times; but as long as there were no brick or stone tiles these gables must have had a very steep pitch or the thatch

which covered them would not have shed water. The flat clay roof was not only more secure, but it offered still other advantages; and hence it is to this day in full use in many parts of the East. That it was also usual in old Greek times, we know from occasional references in the literature as well as from representations in art; for example, the temple and fountain on the François vase.

The Greek gable roof, especially as we see it on the Greek temple, was an invention of the Corinthians. They did not (as is often thought) invent the pediment, for with the pitched roof that came of itself; but their important service consisted in the invention of terra-cotta roof-tiles. Not till these tiles were available could the roof receive that pitch which was usual in ancient times. At first this gable roof was employed only for temples and public buildings, and it was only after the production of tiles was cheapened that they came to be used for roofing ordinary houses.

But do not the chamber-tombs excavated by Tsountas at Mycenae, with their ceilings hewn gable-wise in the rock, make against the flat house-roof? By no means. The rock in which these tombs are hewn is a siliceous conglomerate so brittle as to put horizontal ceilings practically out of the question. Indeed, as it is, the ceilings and door frames in many of the graves have actually fallen in. No doubt, the architects of the Mycenaean age, whose technical knowledge (as displayed, for example, in the great beehive tombs) commands our admiration, knew well that in such rock a sloping roof holds better than a flat one. Indeed, in ceiling over the chambers in the walls of Tiryns they observed the same principle. Hence I do not think that the gabled ceiling of these rock-hewn tombs warrants any inference as regards the form of the timber

roof on the ordinary dwelling-house. Nor can I agree with Tsountas in assuming a gable roof for the building with the columns — possibly a temple — in the Sixth City on Hissarlik. For it is a technical error to hold that a central row of supports is more necessary for a gable than for a flat roof. Exactly the opposite is true. A clay roof, to be water-tight, must be made much heavier than a thatched or shingled gable roof. Besides, with the gable the ancients always employed horizontal cross-beams which in different ways, familiar to every architect, served to bear the weight of the roof. It is not impossible indeed that all the buildings of the old Acropolis at Troy had steep pitched roofs, but it is far more probable that the flat clay roof covered every one of them. In the Greek town of Ilion down to Hellenistic times roof-tiles were not common; and to this day the villages in the Troad retain the old flat roof of beaten earth.

5. Of still another architectonic problem, Tsountas' solution appears to me not altogether correct. Among the houses excavated by him he maintains that there are upper-story dwellings with wooden floors and basements above ground but unoccupied. This kind of house would correspond with the primitive pile-hut; and so, from the litter found in the basements, it is inferred that the people shared the untidy habits of the lake-dwellers in disposing of the refuse of the table and other rubbish (p. 68). But the ruins of the houses in question do not warrant this theory. Two kinds of house are clearly to be distinguished. First, we find such as were provided with cellars and thus, of course, had wooden floors; in these the cellars were accessible by stone or wooden stairways and served for storing provisions and other goods. Secondly, there were houses without cellars, and these had floors of beaten

earth with or without cement. The foundation walls of the latter — now exposed, but in antiquity lying underground — Tsountas has taken for the clear walls of his lower stories. To be sure, these foundation walls were at times visible from without, because the houses stood on the sloping hillside, and in such cases the floors lay in part somewhat above the ground level outdoors; but, even in these houses, this would not be the case on the side toward the hill. The bones, potsherds, and the like, found in the earth between the foundation walls, are earlier than these walls, and either must have been there before the houses were built, or must have been brought there with other rubbish for filling in the course of the building.

6. In conclusion, a few further words about Troy. With perfect right Tsountas has called attention to the difference between the architecture of the houses and circuit-walls of Tiryns and Mycenae on the one hand and those of the sixth stratum of Troy on the other. I agree with him, also, that the Cyclopean masonry, as it is employed in the Argive fortresses, is earlier (generally speaking) than the use of well-dressed blocks so common at Troy. Nevertheless, I hold that the Sixth City at Troy was contemporaneous with those fortresses, and indeed perished still earlier than they. In the later work at Mycenae the intrusion of the new style can be clearly recognized in the Palace (for example, in the walls of the court), as well as in the beehive tombs.

After all the correspondences, the civilization which confronts us at Troy is different from the Mycenaean. To be sure, we recognize the influence of the latter in the Mycenaean vases (undoubtedly imported) which we find in the sixth stratum; but the native culture of the Trojan rulers

is a different culture. The fortress wall with its gates and towers is built altogether unlike the walls of the Argive citadels. The dwelling-houses, too, present an aspect other than that of the palaces at Tiryns and Mycenae. Of interior artistic decoration we learn nothing from the houses at Troy. Wall paintings, such as adorned the Argive castles, seem to have been foreign to them; at least, not a fragment of fresco has yet been found. Again, it is only in the interior of a single edifice that we can make out columns; in the vestibules they appear not to have been employed; and we have nothing to show how their shafts and capitals were fashioned. The cornice (*Gesimse*) of all buildings must have been of wood; at least we have found no trace of a stone cornice or coping. The house floors were formed very simply with clay mortar; lime cement has been noted only on the great road leading up from the main gate. Again, the domestic utensils, weapons, and ornaments, so far as we can judge, appear to have been more simple than the corresponding objects in use among the Mycenaeans.

Whence the Trojan culture springs, Dr. A. Körte, of Bonn, has recently shown. In the interior of Asia Minor, in ancient Phrygia, he has found exactly the same gray pottery which prevails in the sixth stratum at Troy, and which, in distinction from the imported Mycenaean vases, we have styled the local Trojan ware. It is, therefore, probably the Phrygian culture which prevailed at Troy, — a culture which, indeed, had points of contact with the Mycenaean culture described in this work but was nevertheless in essential points different from it.

WILHELM DÖRPFELD.

NEW YORK,
14 November, 1896.

THE MYCENAEAN AGE

CHAPTER I

LANDMARKS OF THE MYCENAEAN WORLD

THE Heroic Age of Greece has never been left quite without a witness. From time immemorial certain of its stately monuments have been known and unchallenged. The Greeks themselves, from Pindar to Pausanias, were of one mind about these landmarks of their heroic foretime. Thucydides even goes out of his way to reconcile the apparent insignificance of the Mycenae of his own day with its ancient fame, and the Tragedians repeople its solitude with the great figures of tradition. So too with strong-walled Tiryns, — a wonder even to Homer, — in which Pausanias sees not only a castle of the Heroic Age, but a work to be compared with the Pyramids of Egypt and to be accounted for only by its attribution to superhuman builders, the Lycian Cyclopes.

Enduring monuments of the Heroic Age

And beside these enduring walls, there were other witnesses less obtrusive but not less awe-inspiring. Of those solemn and splendid sepulchres best known to us in the so-called Treasury of Atreus, one at least — the Treasury of Minyas — was even better known in Roman times, when it could be named among the wonders of the world.[1]

Such landmarks, we may say, have been always in evidence even through the ages that were too dark to read

[1] Pausanias, ix. 38.

them or hand down any judgment upon them; and since Greece has come within the circle of modern civilization the modern world has accepted them in the spirit of the ancient. To Leake and Curtius as to Pausanias and Thucydides, these monuments have accredited themselves as actual landmarks of a real world lying back of Homer and more or less faithfully mirrored in the Iliad and Odyssey.

Monuments inadequate and Homer distrusted

But neither these splendid monuments nor the still more splendid epics, nor even both together, could convey an adequate and authoritative impression of the Heroic Age. The monuments are too isolated and of too uncertain date, while the poets of the Epos, as it has come down to us, are too remote from the heroic foretime whereof they sing to be regarded as altogether competent witnesses of it. And, indeed, their authority has often been questioned, when (as we now know) they were keeping close to actual fact. For example, we have looked upon the Shield of Achilles, with its wondrous living pictures wrought in precious metals of many colors, as a pure invention of the poet's fancy; whereas now the Royal Tombs of Mycenae have yielded up dagger-blades inlaid with designs of the same technique with Hephaestus' handiwork as Homer describes it, and hardly a whit behind it in living reality. So, too, the splendid palaces of Alcinous and Menelaus we have thought of as owning no designer or decorator outside of the minstrel's imagination; and the "much-golden" Mycenae, even with Thucydides' plea for it, has seemed to hold its wealth by the poet's gift. Indeed, the world has distrusted the poet wherever his picture took on a tone too bright to consist with the old saying of Herodotus that "Hellas hath ever had Poverty for her consort."[1]

And this incredulity was not without show of reason.

[1] Τῇ Ἑλλάδι πενίη ἀεί κοτε σύντροφός ἐστι. — vii. 102.

For whatever view we may take of the origin of the Homeric poems, we assuredly cannot regard them as thrown off at a single projection, and that on the scene and at the time with which they are concerned. The arena of the epics is mainly the Achaean world as it was before the Dorian conqueror overthrew its dynasties and absorbed or displaced its populations. It is Achaean princes, ruling their little domains in European Greece or leading a crusade against the East long before the Dorian has come in or the Ionian has pushed out, that Homer celebrates. But Homer himself, if we are to take the consensus of historical Greece, was an Ionian of Asia Minor who lived as late at least as the ninth century B. C.

Ground of this distrust

Thus the poet would be far removed from his proper scene in European Greece and separated by centuries from the overthrow of the social order and the supplanting of the civilization which are wrought into the very texture of his work. No wonder the poet or poets, thought of as working at this double disadvantage and without written records to bridge over the interval, should have failed to obtain full faith and credit. Under these conditions, it would seem too much to expect a true picture of the old Achaean order even in its main outlines; and to fill in those outlines with minute detail and light up the whole with life and color — keeping all the time in touch with historic reality — would be a yet more inconceivable task.

Hence the Heroic Age has been commonly regarded as lying beyond the range of historic inquiry, if not forever buried in prehistoric darkness. The life described in the poems, regarded as a mirror of the poet's own time, has been taken for the earliest known stage of Greek civilization, the childhood of the race. Just twenty years ago, however, through unlooked-for discover-

New light on the Heroic Age

ies, the Heroic Age began to be illuminated, the darkness encompassing it began to lift little by little, and to-day our knowledge of it has advanced so far that we can point confidently to a great chapter of veritable history newly added to the record of the Greek race. It is a chapter, indeed, without precise chronology and almost without names, but abounding in facts. We now know that the Homeric Age was not the childhood of the Greek world. It was rather an age of renaissance from national decline. Back of that decadence we mount up to the meridian of national bloom. This era of Mycenaean culture covers the period approximately from the sixteenth to the twelfth century B. C.

Abundance of real data

Our knowledge of this civilization does not rest upon conjecture or vague poetic description, but upon its own multiform remains, the mass of which increases with fresh discoveries from day to day. Hence we know the Mycenaean age in many aspects more exactly and authoritatively than we know the Homeric. The excavations have taught us how princes and people built and adorned their palaces and dwellings; what was their daily food and dress and armor; what was the character of their art and their trade relations; how they fashioned their tombs and were buried in them. All this we have learned and much beside; so that, with all that still remains obscure and enigmatic, this unearthing of the Mycenaean age undoubtedly marks the greatest advance of our times in rounding out the history of the Greek race.

Progress of Discovery: Mycenae, Thera, Rhodes

Fittingly, it was from the ancient Achaean capital itself the first clear light broke forth. After making his first essay at Ithaca (1868), and uncovering the pre-Mycenaean city on Hissarlik (1873), Dr. Schliemann turned his attention to Mycenae, where in 1876 he cleared out the Lions' Gate, partially

excavated the tomb of Clytemnestra, and crowned his campaign by unearthing the royal sepulchre inside the fortress. There, in five graves sunk in the rock, he found the remains of fifteen persons, fairly loaded with gold and surrounded with a wealth of other offerings well-nigh exhausting the range of primitive art. These brilliant discoveries took the archaeological world by surprise and brought on a debate which is not yet closed.

But in the light of the Mycenaean finds, it presently appeared that Schliemann had not been the first, absolutely, to break into this Heroic world. Already (1866), at Thera, the French geologist Fouqué had excavated houses with their furnishings in earthenware and bronze, which had been buried by a volcanic eruption as early, he thought, as about 2000 B. C.; and again, a little later (1868–71), the English Consul Biliotti had opened forty-two rock-hewn tombs of the same age at Ialysos in Rhodes. The furnishings of these tombs, consisting largely of rich vases, had been presented by John Ruskin to the British Museum, where they were relegated with other nondescripts to the basement. But in the new light from Mycenae [Sir] Charles Newton at once saw the relation of these several finds and thus laid the real foundation of Mycenaean archaeology.[1]

Shortly after Schliemann's great discovery, a land-slip near Spata in the Attic Mesogeia revealed a great rock-hewn tomb, with three chambers and a dromos, belonging to the same epoch and yielding pottery and other objects of the same class with those of Mycenae and Ialysos. This, with a second smaller tomb, was excavated by the Ephor Stamatakes, who had repre- Spata

[1] In his article in the *Edinburgh Review* (1878), reproduced in his *Essays on Art and Archaeology*, 246–302.

sented the Greek government in the work at Mycenae and who now returned thither to prosecute that work. He discovered the sixth grave in the same inclosure with the five already opened by Schliemann, excavated the private houses already discovered, which yielded some important gold finds, and cleared out the dromos to the Treasury of Atreus, until then blocked up.

Menidi

Again, in 1879, in the plain north of Athens near the village of Menidi (ancient Acharnae) a domed structure of the so-called Treasury type, discovered by the villagers, was excavated by Dr. Lolling for the German Archaeological Institute. Not only did it yield a further store of the now recognized Mycenaean grave furniture, but the presence of six skeletons lying undisturbed in the midst of the offerings positively established for the first time the sepulchral character of these bee-hive tombs.[1]

Nauplia

Following upon this notable find, the Greek Archaeological Society excavated at Pronoia, a suburb of Nauplia, a prehistoric cemetery of rock-tombs hewn in the base of Palamedes and resembling those of Spata, but of a humbler order and with offerings of slight intrinsic value.

Orchomenos
Tiryns

In 1880–81, Dr. Schliemann cleared the famous Treasury of Minyas at Orchomenos; and in 1884 he undertook a still more important task at Tiryns, where he discovered and laid bare a prehistoric palace so well preserved that its ground plan is for the most part clearly defined. In this work, Schliemann was fortunate in enlisting the coöperation of Dr. Dörpfeld, the accomplished architect, who has been so long at the head of the German Archaeological Institute at Athens. To

[1] Lolling, *Das Kuppelgrab von Menidi.*

Dr. Dörpfeld's rare training and keen insight is due in no small measure the thoroughly scientific character of this excavation, and we are further indebted to him for a very clear and accurate account of the palace, including the elucidation of some difficult problems of construction.

Thessaly

The next advance carries the frontier of the Mycenaean world as far north as Thessaly: there at Demini, near Volo (the ancient Iolcos), in 1886, a domed tomb closely resembling that at Menidi was cleared and found to contain very similar offerings.

Mycenae: the Palace and Tombs

The same year Dr. Tsountas (acting for the Greek Archaeological Society) resumed the excavations at Mycenae, which still continue. He at once laid bare on the uppermost terrace of the citadel a palace of the same general plan with that at Tiryns, as well as private houses of the same period, situated below the summit near the western wall. Thence he proceeded to excavate the eastern extremity of the acropolis, where he discovered a subterranean passage leading through the circuit wall and to a reservoir at some distance without. Outside the citadel more than sixty tombs were found and excavated, all of them rock-hewn chambers, with the exception of two *tholoi* or vaulted tombs. Of the vaulted tombs previously known, three were completely cleared out, with the dromos and part of the interior of another, — namely, the so-called Tomb of Clytemnestra, which Mrs. Schliemann had partly excavated in 1876.

Laconia: Vaphio and Kampos

During the progress of this work at Mycenae, Dr. Tsountas excavated (1889) a domed tomb at Vaphio (ancient Amyclae) near Sparta, in which he found, along with many other treasures, the now famous Vaphio cups, — two magnificent gold goblets embossed with lifelike designs. Again (1890) he opened

still another domed tomb in Laconia — namely, at Kampos, on the west side of Taygetus, not far from the site of the ancient Gerenia. The most curious archaeological finds here were a pair of lead statuettes, especially important for the determination of primitive Mycenaean dress.

Following the important discoveries at Spata and Menidi,

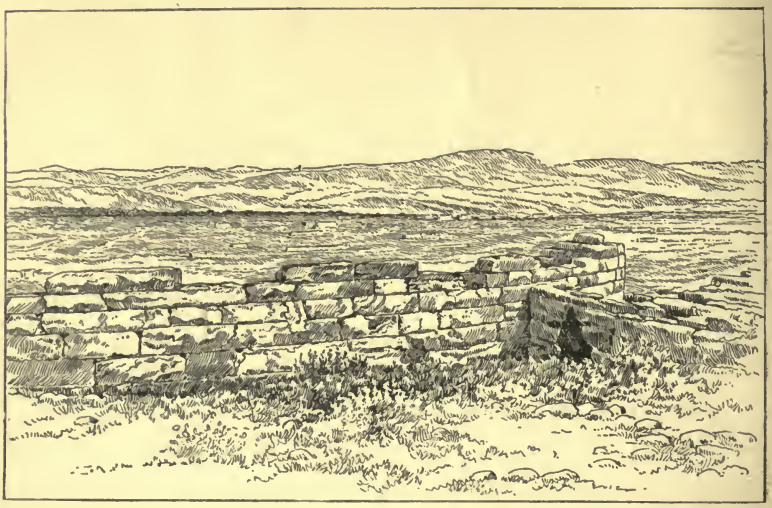


Fig. 1. View of Thoricus from Theatre

other Mycenaean landmarks have since been found all over Attica. These are (1) on the Acropolis of Athens, which was cleared (1884–89) down to the living rock, thus revealing the Pelasgic circuit wall as well as scant remains of a prehistoric palace with a rock-hewn stairway to afford a rear communication as at Tiryns;[1] (2) at Halike (Halae Aixonides) on the sea southeast of Athens, where in 1880 a cemetery like that at Pronoia

In Attica and adjacent islands

[1] This work was done by the Greek government under the admirable direction of the Ephor General Kabbadias.

yielded many Mycenaean vases; (3) at Thoricus, where the first beehive tomb was opened in 1888 by the Ephor Staes, who has now (1893 on) found remains of Mycenaean and still earlier houses on the summit above the theatre, and excavated some domed tombs of a novel form; (4) in the Mesogeia, where the same archaeologist has discovered and explored three Mycenaean cemeteries at Markopoulo, Brauron, and Prasiae; (5) at Aphidna (now Kapandriti), where Dr. Wide, a Swedish archaeologist, has explored a burial-place of the same age; (6) at Eleusis, where beehive tombs have been explored by the Ephor Philios; (7) at Salamis (1893), where Mr. Kabbadias has explored a cemetery of over a hundred (late) Mycenaean graves; and finally at Aegina, where Mr. Staes has recently excavated prehistoric dwellings near the modern town, and found much Mycenaean pottery of the earliest as well as more advanced types. To Aegina we must, no doubt, assign also the mysterious "Mykenaean Treasure" lately acquired by the British Museum.[1]

In Central Greece, undoubtedly the most important discovery is that of the prehistoric palace on the fortress-rock of Gha or Goulas, rising out of the waters of Lake Copaïs. This island fort (with very much the form but nearly thrice the area of Mycenae) was explored by M. de Ridder and Herr Noack in 1893; and its walls, gates, palace, and agora — the last a unique datum — are now as fully in evidence as the remains of Tiryns itself. At Delphi, also, M. Homolle has made Mycenaean finds, — a small chamber-tomb with Mycenaean vases, idols, bronze swords, razors, and the like.

Boeotia: Arne or Gha

Delphi

While Ithaca has not yet put in the clearest Mycenaean

[1] Published by Mr. Evans in the *Journal of Hellenic Studies* (1893).

credentials, its neighbor Kephallenia is now an accredited outpost of that civilization as shown by a beehive and three chamber tombs recently described by Dr. Wolters.[1]

Kephallenia

In the Aegean, again, Crete is in a fair way to contest the Mycenaean primacy with Mycenae itself. Without any thorough-going explorations, we have already in evidence there fortress and palace (at Knossos), Cyclopean roads, beehive tombs, Mycenaean pottery, and particularly great numbers of engraved gems (the so-called island stones), often bearing pictographic or alphabetic symbols which are clearly pre-Phoenician. And Mr. Evans now announces[2] his further discovery in the *Diktaion Antron* (the legendary birthplace of Zeus) of "a formal inscription dating, at a moderate computation, some six centuries earlier than the earliest Hellenic writing, and at least three centuries older than the earliest Phoenician."

Crete

In concluding this rapid survey, we return to Troy. There, in 1893–94, Dr. Dörpfeld found in the sixth stratum — four layers above the Burnt City which Schliemann explored — the acropolis of the Mycenaean age, and so, if ever there was such, the Pergamos of Priam. Of this momentous discovery a fuller account will be given in Appendix A.

Troy

As the outcome of all these discoveries and the studies based upon them, there stands revealed a distinct and homogeneous civilization, — a civilization so singular in many aspects that scholars have been slow to see in it a phase of unfolding Hellenic culture. At first, indeed, it was pronounced exotic and barbarous; but the wider the area laid under contribution

A distinct Hellenic culture

[1] *Ath. Mitth.*, 1894.

[2] *Academy*, June 13, 1896.

and brought into comparison, the stronger has grown the evidence, if not the demonstration, of its substantially indigenous and Hellenic character. To-day archaeologists generally, while allowing more or less for foreign influence, hold to this Hellenic view (if it may be so called); and it is hoped that the present work will contribute somewhat to its full demonstration.

The term Mycenaean

While other terms (as Achaean and Aegean) have been proposed, it seems desirable for the present to adhere to that name for this civilization which is at once suggested by its earliest known and (so far as yet ascertained) its chief seat, Mycenae. And to the authors and bearers of this civilization throughout Greece, we must apply the same term — Mycenaean. For while Mycenaean culture has left its landmarks, as we have seen, from one end of Greece to the other, as well as on the islands and coasts of the Aegean, there has been handed down to us no inclusive name for the primitive occupants of this wide area.

Scope of this work

The present work aims to exhibit in the fullest view now possible the life and culture of the Mycenaean age. As the central hearth of that civilization and the repository of its main extant monuments, Mycenae itself will naturally claim the first attention, but we shall also include in our survey whatever may seem pertinent and important in any part of the Greek world.

CHAPTER II

THE FORTRESS-CITY

In an age which looked on war as the only liberal profession,[1] the fenced city must have been the prime concern. So the hilltops of Hellas, often forbidding enough by nature, were turned into frowning castles, each the seat of a Basileus lording it over a realm sometimes as wide as he could readily watch with his own eyes, sometimes — as in Argolis — with two or three rival royal perches within the range of vision. Of these ancient hill-forts, the Acrocorinthos and the Athenian Acropolis are perhaps the noblest examples — the first, with its beetling brow a thousand feet in air, standing sentinel at the gates of the Peloponnese; the second hardly half as lofty, but with a matchless distinction in its free and queenly relief above the Attic Plain. Both these rocks, however, have had too long a history to serve our purpose as types of the Mycenaean stronghold. On each the Hellenic race, in its more perfect bloom, covered up in great measure the monuments of the Heroic Age; and on each the Roman, Frank, and Ottoman have taken turns in wasting or burying the work of Greek hands, historic and prehistoric alike. It was even worse with Thebes and Megara, where the rock was cleared

The primitive Hill-Fort

[1] In Homer, the agora is occasionally *κυδιάνειρα*; but the epithet is still the peculiar, as it must have been at an earlier day the exclusive, property of *μάχη*.

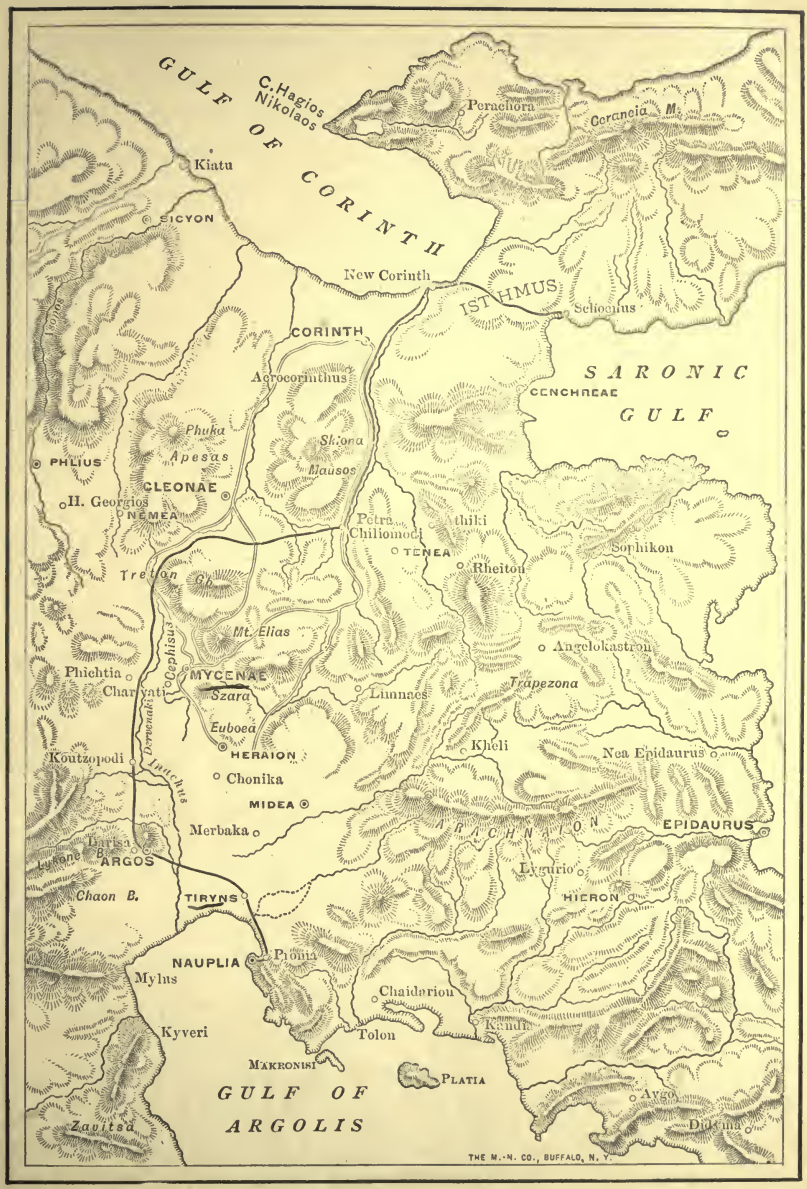


PLATE II. MAP OF ARGOLIS (BASED UPON STEFFEN)

afresh for each new occupation and nothing noble but the rock is left. Troy fared better, for each new-comer merely leveled up and built again on the old foundations; but for that very reason we cannot at Hissarlik isolate the Heroic Age and study it by itself.

It was the good fortune of the old Achaean capital, on the other hand, to perish in the height of its bloom and to rest almost undisturbed in its buried glory until Schliemann's spade uncovered it twenty years ago. By its fortunate catastrophe, Mycenae remains the well-nigh perfect type of the ancient fortress city. And where the lines are blurred we have but to look across the plain to her elder sister Tiryns, equaled with her in fate if not in fame, to round out the picture. It is Tiryns and Mycenae, then, — and in this order for reasons that will presently appear, — that we are now to study.

Tiryns and Mycenae as types

As we have said, the Hellenic hilltops in Heroic times were so many frowning castles, but the choice of the hilltop was conditioned not only by the security it offered but by the corn-land it guarded. It was conditioned, too, as a rule by its relation to the sea, without the daily sight of which no Hellene — unless he were also an Arcadian — could ever feel quite at home. Now a glance at the map of Argolis[1] will show at once the singular attraction which the Argive plain must have offered in all these aspects.

Choice of sites

Among all the sheltered bays of the Peloponnese, no other cuts so deep as the Gulf of Argos. Nothing but the mountain ranges, with their eternal "thus far and no farther," fence it off on either side, but at its head it has left a bit of plain with a sunny southern

The Plain of Argos

[1] See Plate II.

exposure to break the rugged mountain circuit. It is this bay and this plain which formal Greek history first associates with the commerce of the East. In the opening pages of Herodotus, we find the peddling buccaneers of Tyre holding their bazaar on this coast and winding up their week's business by kidnapping the king's daughter and some of her maids. Thus broke out the eternal Eastern question, in which the siege of Troy is a mere episode, as are Marathon and Salamis and Navarino.

Fig. 2. Tiryns: Palace Wall on right, Mountains in distance

The Argive Forts

The Plain of Argos, thus inviting to early commerce, is thick sown with heroic legends and crowded with heroic strongholds. At the eastern extremity rises the impregnable rock of Palamedes, "the Gibraltar of Greece," as Tozer calls it, guarding the rocky headland on which Nauplia is built; across the plain, on the north-west, looms its counterpart; — the steep, sharp Larissa of Argos, — with a city that has never ceased to exist lying at

its foot. Between Argos and Nauplia, and less than three miles from the latter, lies Tiryns on a rock that hardly breaks the general level; while at the head of the plain — on a mountain spur, indeed, that rises 912 feet above the sea and is further sheltered by a background of mountains twice and thrice as high — perches secluded Mycenae. And, finally, between Mycenae and Tiryns, on the north-eastern side of the plain, rises Mideia. Of these five hill-forts, the round of which might be made in an easy day's walk, the beginnings are all lost in antiquity. Strategically, the Larissa of Argos dominates the plain watered by the Inachos, and tradition points to it as the original stronghold of the district, the seat of the first Pelasgian king Phoroneus as of the later Danaids. Mycenae, on the other hand, seems placed not for defense but for aggression. Curtius has likened it to Deceleia in its relation to the Attic plain, and Steffen holds that a mighty Mycenae so near Argos points to hostile relations between the two. The same holds true of Tiryns; and such relations between the Proitids of Argos and the Perseid founders of Tiryns, Mycenae and Mideia are again attested by the legends. Nauplia, too, occupies a threatening position, and tradition makes it an outpost of Eastern commerce.

These considerations, strategic and legendary, have led Steffen to the hypothesis that a warlike seafaring race, the Perseidae, got a foothold on the Gulf of Argos at Nauplia and Tiryns; then advancing established forts at Mideia and Mycenae on the edge of the plain from which to operate against the autochthons in their fastness at Argos. For Mycenae, a second epoch opens with the advent of the Pelopids. In these we recognize another group of Asiatic immigrants, coming

Strategic position of Mycenae

overland by Macedonia and the Isthmus, and pushing on into the plain of the Inachos, where they seize upon the old Perseid fort at Mycenae and make of it a mighty fortress to be the base of further aggression. The hypothesis rests, specially, on two observations: first, the coexistence in the Mycenae circuit wall of the rude Cyclopean with the more advanced masonry, the former ascribed to the Perseid founders, the latter to the Pelopid conquerors; second, the network of ancient roads connecting Mycenae with Corinth, and pointing to Corinth as the northern base of which the Pelopid Mycenae was an outpost.

However this may have been, it was under the Pelopid line that Mycenae rose to her Homeric eminence as a city well built, with broad streets and rich in gold. Under Agamemnon it has become the seat of an Achaean empire, including "all Argos and many isles," with a sort of suzerainty over the Hellenic world. At the same time Diomed is still Basileus at Argos, only nine miles distant. But Agamemnon, after leading the Panachaean host to Ilios and ultimate success, comes home to find his doom at his own hearth; and the rest of his line fall upon evil days. Only two generations after Troy, the Dorians, pushing their slow but sure march southward, appear as the second conquering race before the Lions' Gate. How long these mighty walls withstood them we cannot know, but at last the Achaean castles fell, the palaces with their splendid decorations and appointments perished in the flames, and little of Achaean splendor was left save in the mighty walls and in the hidden tombs. The new lords saw what we have seen, that the key of the plain was not Mycenae or Tiryns, but the impregnable Larissa, and on or under that they took their post. Argos

Mycenae in legend and history

PLATE III. ARGIVE PLAIN, LOOKING SOUTH FROM MYCENAE

From a photograph by Professor Colwell

once more became a capital; and while Tiryns and Mycenae were not actually blotted out they must have been but feeble dependencies.

Still there was a remnant left to have a hand in the crowning glory of the Hellenic race. In the great struggle with the Persian, Dorian Argos, for good reason or bad, held aloof from the national cause; but eighty men of Mycenae marched with Leonidas to Thermopylae, and a year later at Plataea, Mycenae and Tiryns together mustered 400 strong.[1] For this noble stand their names were inscribed, together with those of the other cities which had united in the national defense, on the offerings dedicated by the Greeks at Olympia and Delphi; and on one of these we can still read them. It is the serpent-column which once supported the tripod of gold, — that unique soldiers' monument set up at Delphi nearly twenty-four centuries ago and now standing with the glorious muster-roll upon its coils in the Hippodrome at Constantinople.

In Persian wars

But this very distinction sealed Mycenae's fate. Hardly a decade later (468 B. C.), the jealous Argives besieged and took the place, and the inhabitants were scattered, — some to Cleonae, some to Keryneia in Achaea, others as far as Macedonia. If we are to believe the ancient writers, — Strabo, Diodorus, and Pausanias, — the destruction was complete, and Mycenae remained a solitude from that time on. But we are in a position to correct their statements. Inscriptions found upon the spot show that in the third century B. C., Argos planted a colony of her own within the deserted walls, where it remained for some centuries; and other inscriptions recently unearthed tell of "a transplanting of the

Destroyed by the Argives

[1] Herodotus, vii. 202; ix. 28.

inhabitants by Nabis, tyrant of Sparta, to Lacedaemon, and of their subsequent return to their country, and inform us of their government and tribal divisions." [1]

With this necessarily brief sketch of their topography and history, we proceed to a detailed study of our two typical hill-forts. And we begin with Tiryns, not only because it is traditionally and actually the older, but because it stands simply for the fortress and palace in contrast with the bewildering complex of interests crowding upon the attention at Mycenae.

Tiryns: its site

In its site, Tiryns hardly deserves the name of acropolis. Indeed, it approaches the type of Arne rather than of Athens; for it is nothing but a long low limestone ridge, rising out of what is now a level plain and was once a morass, as most of the ground lying between it and the sea (hardly a mile distant) is to this day. Over this marshy tract the *fleur-de-lis* runs riot, and all about Tiryns tobacco grows rank, while right under its mighty walls the grounds of Capodistria's short-lived agricultural school are a wilderness of fruit trees outvying in variety the orchards of Alcinous. In its present aspect, the sea plain certainly does not bear out Aristotle's statement, that at the time of the Trojan War it could support but few inhabitants on account of its marshy soil, while the land about Mycenae was fertile and valued accordingly.[2]

The limestone ridge which bears the fortress is about 328 yards long and 129 wide, or a little less in area than the Athenian Acropolis; it rises gradually from its northeast extremity to a height at the southern end of 59 feet above the surface of the plain and 72 feet above the sea level. By means of substructions and embankments the whole

[1] Gardner, *New Chapters of Greek History*, p. 18.

[2] *Meteor.* i. 14.

ridge was fashioned into three terraces, which we may term the Lower, the Middle, and the Upper Citadel. The whole of the upper citadel is occupied by the palace, and this part alone is included in the detailed plan (Plate VIII.); but as the sketch plan (Plate VI.) shows, the wall continues further to the north, and incloses the whole ridge with its three terraces. The entire circuit is of Cyclopean masonry; that is to say, of huge masses of rock either unwrought or roughly dressed with the hammer and piled one upon another, not quite irregularly, as has been held, but with an effort at horizontal jointing and with the use of clay mortar (now mostly washed out) as a bedding material.[1] The huge limestone blocks so impressed Pausanias[2] that he declared that a yoke of mules could not stir the smallest of them. This is an exaggeration, yet there are actually found blocks as much as 10 feet long and more than a yard square. The wall varies from 16 to 57 feet in thickness, and around the lower citadel, where best preserved, it is still standing to a height of 24½ feet.

Circuit walls

The chief entrance is on the east or landward side, and is approached by a gradually ascending ramp, 19 feet 4 inches broad, which starts some distance north, and is carried along the wall on a substructure of Cyclopean masonry until it attains the level of the upper terrace. Here, at the north-east corner of the upper citadel, the wall is pierced, but without either threshold or posts to indicate the presence of a gate. Thus the entrance appears to have been simply an open passageway. To reach it an assailant had to make his way for a considerable

Entrances

[1] "All the walls of Tiryns are built with clay mortar, and this mortar, wherever it is wanting now in the joints, has been removed by rain or other agencies." — Dörpfeld, *Tiryns*, p. 337.

[2] Pausanias, ii. 25, 8.

distance along the ramp exposed to missiles from the wall above him, and then on entering he would find himself in a cul-de-sac between the fortress wall without and the palace inclosure within, while the real fortress gate was still before him.[1] Of this gate the great stone threshold ($4\frac{3}{4}$ feet broad and $10\frac{1}{3}$ feet long) and the massive parastades or gate-posts ($10\frac{1}{2}$ feet high) are still in place, though the

Fig. 3. Postern at Tiryns

outside post is broken off above and the lintel has disappeared. The uprights are not mere squared blocks, but in the outer side a special door-rebate (of one foot on each jamb) or door-case is wrought, against which the great doors rested. Halfway up (five feet above the sill), the inner jamb is bored to the depth of 16 inches; while the outer one is bored clear through. Thus the bolt could be shot back through this jamb into the circuit wall and quite out of the way when the gate was open. If the gate to

[1] In plan and dimensions, so far as can now be made out, it corresponded closely with the Lions' Gate, which, being completely preserved, will afford a better description. (See page 29.)

PLATE IV. MYCENAE, FROM THE SOUTH

From a photograph by Professor Colwell

Achilles' quarters in the camp at Troy [1] took a bar like this (say 15 feet long and $6\frac{1}{2}$ inches in diameter), it is no wonder it required three Achaeans to ram it home.

Nearly opposite the main entrance, on the west side of the citadel, there was found in 1884 an entrance scarcely less important (T). This is a postern gate, in a semicircular projection of the wall. It is $6\frac{1}{2}$ feet wide, and communicates with a stone stairway leading up to the Middle Citadel and thence to the rear of the palace. The first 20 steps of this staircase are cut in the living rock, and in all 65 steps are preserved. This gate and staircase served partly to facilitate communication between the acropolis and the lower city, partly as a sally-port in case of siege, and its construction rendered it absolutely impregnable. A similar staircase has been discovered in the north side of the Acropolis of Athens, near the scanty remains of a palace contemporary with those of Mycenae and Tiryns. In addition to these two entrances, there were two others, — a postern entering the middle citadel on the west and another to the lower citadel on the north.

Postern and rock stairs

But the most remarkable, if not the unique, feature of the fortress architecture at Tiryns is the galleries. There are two of them, one in the south wall, the other in the southernmost section of the east wall, with a staircase leading down to each; but of these staircases the one leading to the southern gallery (D) alone remains. This staircase ends in a narrow corridor (C) upon which open five chambers (BB). The other gallery is composed of a similar corridor and six chambers. The chambers and corridors are vaulted in the Mycenaean manner; that is to say, above a given height (say 6 feet) the stones of the

Galleries

[1] *Iliad*, xxiv. 450 ff.

parallel walls begin to overlap gradually, and so form a roof shaped like a pointed arch.[1] These galleries were obviously designed for storing provisions, munitions of war, and the like. The southern gallery lies at a level of 24 feet 6 inches below the surface of the upper citadel. The corridor is some 50 feet long, and from 5 feet to 5 feet 7 inches broad; at the west end it is completely closed; the east end

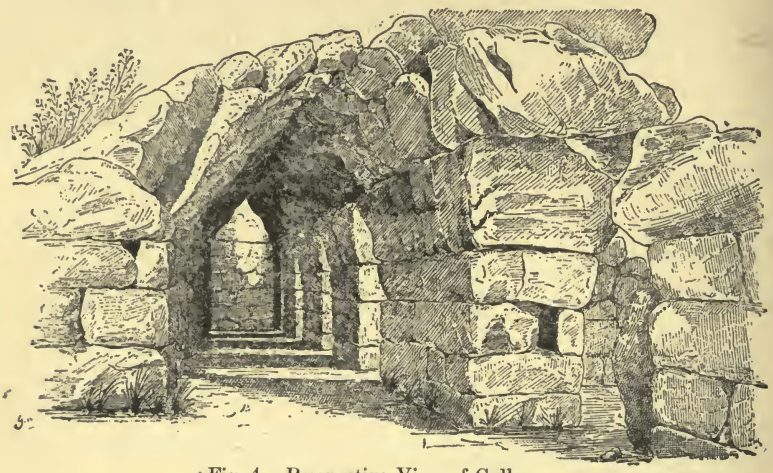


Fig. 4. Perspective View of Gallery

is lighted by a sort of window which, starting with the full breadth of the corridor, narrows down to a four-inch loophole. The two chambers on the west have a depth of $17\frac{1}{3}$ feet, the three on the east of only $14\frac{1}{2}$ feet, while the uniform breadth is about $10\frac{3}{4}$ feet, with partition walls $6\frac{1}{4}$ feet thick. The six chambers in the eastern wall are somewhat smaller, and the corridor — whose southern end-wall is now broken down — appears to have been closed at both ends.

[1] "From within, the roofs of these galleries look like real vaults of pointed arches, whereas they are really not vaults at all. Some stones, indeed, may exercise an inward thrust, and in some places the uppermost stone may really act as the keystone of an arch; but these galleries cannot be regarded as real arches because, generally speaking, there is no lateral thrust." — Dörpfeld, *Tiryns*, p. 83.

Extraordinary as is this construction, it is not absolutely unique. It occurs in the Punic cities of North Africa, notably at Carthage. So close is the correspondence that Dr. Dörpfeld at first found himself constrained to accept it as "a proof that both [Tiryns and Carthage] were erected by Phoenician builders." At Carthage, indeed, the corridors lie outside the chambers, and the chambers are not square but rounded. "Still the conformity goes so far that the length and breadth of the chambers in Byrsa (the Carthaginian citadel) almost exactly recur in the two central rooms of the southern wall of Tiryns." [1]

But the legends of Tiryns point consistently to Lycia. It is from Lycia that Proitos fetches the Cyclopes to build his walls, as well as the queen to share his throne; and Lycia, in its advanced civilization and artistic creativeness, is "the precursor and model of the Hellenes," although a Semitic element — the Solymi — is early established there. We may then assume that Phoenician and Lycian alike, in Africa and in Argolis, are employing a construction borrowed from an earlier Asiatic race. This is Dörpfeld's own alternative,[2] though he regards it as the less likely one.

But the circuit of the Cyclopes now above ground is not the oldest work here. A much earlier settlement is attested not only by finds of pottery of the primitive Trojan type, but also by traces of earlier buildings on the Middle Citadel and under the Palace.[3]

Earlier occupation

[1] See Dörpfeld, *ib.*, p. 324, where ground-plans are figured and compared.

[2] *Tiryns*, p. 325.

[3] "The existence of an older settlement in Tiryns is therefore certain, but of its size and form we know hardly anything. We do not even know whether it was surrounded with a wall. For I regard it as certain that the gigantic wall which is still preserved does not belong to the earlier settlement, but was built at the same time as the stately palace." — Dörpfeld, *Tiryns*, p. 252.

This primeval Tiryns — if we are to credit Eustathius — was simply a fishermen's shelter, and so named Halieis. It would be readily brushed away by the Lycian giants, to whom the neighboring limestone hills would offer good quarries. Those quarries and certain blocks in the walls still show us how they wrought. "The blocks of stone (says Dörpfeld) were probably loosened by metal wedges or simple pick-axes, the limestone being stratified in regular layers and very loosely. Bored holes, which are found in several blocks of the castle wall, prove, however, that the stones were partly obtained by other methods. We suppose that the holes, as well as the mortises in the pilaster blocks, were made with *wimbles*, then filled with dry sticks of wood, and that finally, by wetting the wood, the stones were cleft. Almost all the stones, before being used, had been wrought on one or several faces with a pick-hammer. Thus the walls of Tiryns must be spoken of as composed not of unhewn, but of roughly dressed stones. And in most places the several layers of stone run in pretty exact horizontal lines."

After quarrying and dressing, these huge blocks had yet to be transported the better part of a mile, and raised to their places: a task requiring something like the force and organization it must have taken to rear the Pyramids, with which Pausanias declares these walls to be worthy of comparison.

Mycenae: its site

In sharp contrast with Tiryns, Mycenae is a veritable mountain fastness. Instead of morasses, a rocky, arid region lies before it and two lofty summits rise behind it, while the mightier mountain wall to the north-west is broken only by the narrow defile through which flows the Cephisus, followed by the wagon-road and railway. The fortress rock itself, which rises to an eleva-

tion of 912 feet above the sea, is buttressed on the northeast by Mt. St. Elias (2,640 feet high), and on the southeast by Mt. Zara (2,160 feet). Their spurs fall together east of the acropolis and are separated from it only by a slight depression. Between Mycenae and Mt. Zara a deep narrow gorge, the Chavos, like a mighty moat guards the fortress. On the north the castle rock is less precipitous, but hardly less secure, being severed from the base of St. Elias by another natural moat, the ravine Kokoretsa. On the east the access is easy; while in front lies a depression defined on the west by a long ridge — the main street of the lower town — which bears, in the main, from south to north, and then bends a little to the east, where it meets the north-west corner of the acropolis.

The acropolis is inclosed by a strong wall, following the natural configuration of the ground and so approximating the form of an equilateral triangle. This wall is preserved more or less completely in its entire circuit, save only where a landslip has swept away a section of the line above the Chavos. Fortress wall

In its construction we distinguish three orders of masonry — not all of them contemporaneous, but obviously due in part to alterations and repairs made at different dates. Far the greater part of the circuit is built, like the entire wall of Tiryns, in the so-called *Cyclopean* masonry, though the blocks here are less massive as a rule than at the older fort. Three orders of masonry: Cyclopean

The second order is the *rectangular* or ashlar masonry, which prevails in later Greek architecture. It employs great hewn stones, placed one upon another in horizontal courses, so disposed that the vertical joints of one course shall not coincide with those of the course immediately above or beneath. Such is the masonry Regular

of the approaches to the two fortress gates (illustrated in the view of the Lions' Gate, Plate I.), and of a tower in the south-eastern wall. Strictly speaking, however, only the outer faces of these sections are thus built, the core-structure consisting, as in the first system, of unhewn stones bonded with clay. Thus ashlar masonry is employed solely as a facing, partly to dignify the great portal and its accessories, partly, no doubt, because it offered no foothold to an escalading foe, as would the Cyclopean with its great gaps; while the core of the wall, as well as the inner face, was built in the simpler and less expensive fashion. It follows that the Cyclopean, though certainly the earlier by origin, continued in use along with the regular masonry, and the employment of the one or the other, taken by itself, does not enable us always to determine with certainty the relative age of a building. Moreover, the rectangular masonry in the architecture of the acropolis of Mycenae is still far from perfect, for there are spaces between the joints filled up by smaller stones, the courses are not always quite horizontal, and the vertical joints are sometimes found in the same line.[1]

Polygonal

A third order is the so-called *polygonal*, which employs stones carefully hewn into polygons with unequal sides, and so closely joined that there are no gaps and consequently no bonding with small stones or mortar. That this masonry is much later than either of the others is apparent on its face and admits of positive proof. It is found in three places, — at the north-east corner of the circuit wall; again to the north-west of the Lions' Gate; and, finally, below the middle of the western wall (H in the Plan). This last section is still standing to its full height of some 56 feet, and is usually called a

[1] See Schliemann's *Tiryns*, Adler's introduction, xiv.

PLATE V. TIRYNS, FROM THE EAST

From a photograph by Professor Colwell

tower, although it does not project beyond the line of the wall (see photographic view, Fig. 5). Excavations now have shown that this so-called tower was simply raised at a late day as a supporting wall for the terrace. On the inside it is left without any facing, for the reason that it was built snug against ancient houses of different dates — the earliest lying at a depth of 26 to 33 feet, and belonging to

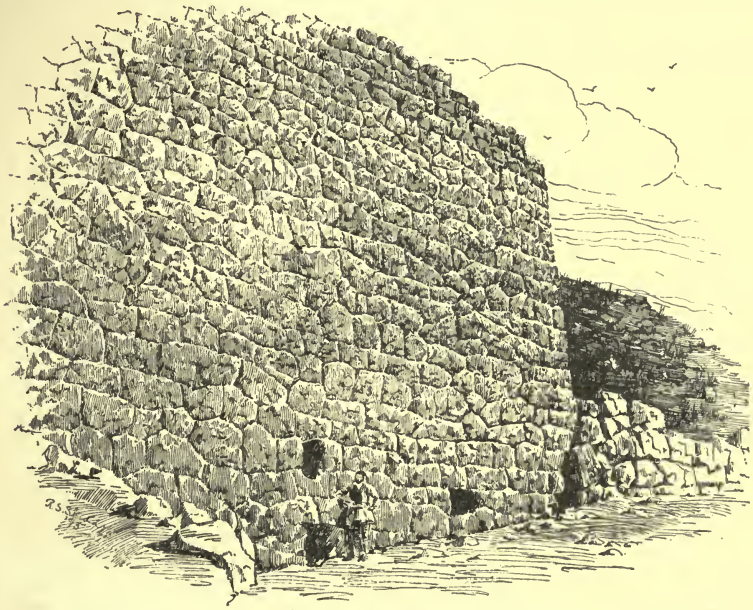


Fig. 5. The "Polygonal Tower" (Mycenae)

the Mycenaean age (F in the Plan). It is clear now that these ruins had either been already covered with débris before the tower was built, or they were so buried at the time, thus hiding the rough inner face of the wall as it rose. This polygonal work is, then, much more recent than the Mycenaean epoch, probably antedating by no long time the destruction of Mycenae by the Argives in 468 B. C. If the "tower," with other repairs in the same masonry,

may be ascribed to the Mycenaeans who had just borne an honorable part at Thermopylae and Plataea, we may discover in them further provocation for the jealousy of Argos.

Strength of walls

The original height of the wall was not uniform, but varied with the contour of the rock. As noted above, the so-called polygonal tower rises to a height of 56 feet, but this is undoubtedly exceptional. Again, the wall is not of uniform thickness, but in the portions still intact it varies from 10 to 25 feet. It seems to have been strongest at two points, namely, in the north line and in the eastern half of the southern side, where the state of the ruins (according to Schuchhardt) indicates "an original thickness of as much as 46 feet." These stronger sections of the circuit were once supposed to have been pierced with galleries, such as we find at Tiryns, where they clearly served as magazines for storing supplies and munitions of war. But the excavations now (1895) show that no such gallery exists or has ever existed in the walls still standing at Mycenae, whatever may have been the case with the sections that have been destroyed. There are, it is true, several passages of the same "vaulted" construction with the corridors at Tiryns; but corridors, in the strict sense, they are not, for there are no chambers to give them a *raison d'être*. One of them (L in Plan) is simply a secret exit; and another (K) is now found to be an entrance to a tunnel communicating with a hidden reservoir outside the walls.[1]

Entrances: Lions' Gate

The fortress has two gates, — one piercing the west front near the north-west corner (A in the Plan) the other in the northern wall not far from its eastern extremity. The first is the famous Lions' Gate (Plate I.). It is approached by a gradually ascending roadway, 50 feet long and some 28 feet wide, bounded on

[1] See p. 40 for a full account of this unique arrangement.

the left as one enters by the circuit wall, and on the right by a nearly parallel wall which forms part of a large quadrangular bastion. Through this narrow passage, affording room for not more than seven men abreast, an enemy would have to approach the gate exposed to a rain of missiles in front and on both flanks; and on clearing the gate he would find himself shut up in a small court 13 feet square and opening on the citadel by a passage only 7 feet wide.

The gateway is nearly quadrangular, with a height of 10 feet 4 inches, and a width of 9 feet 10 inches to 9 feet, narrowing upward as usual with the doors of the period. The gate-posts, the threshold, and the lintel are great blocks of breccia, showing clearly the traces of the saw by which they were cut out of the quarry. In threshold and lintel we still see the sockets in which the pivots of the double gate turned. For the ancient door in general differed from the modern in this, that, instead of hingeing on the jamb, it was mortised to an axis of its own in the shape of a vertical beam which projected above and below it, and fitted into two sockets cut in the threshold and lintel respectively. The wooden uprights did not work directly in the grooves, but were shod with bronze pivots — an example of which has been found in the socket of a doorsill in the Tiryns palace. There are several sockets also in the gate-posts, and one of them, a large square hole in the right-hand post, must have served to receive the strong bar or cross-beam used to bolt the door on the inside.

Above the gate, the wall is not built up solid, but the successive courses on either side overlap until they meet in a sort of pointed arch (as already described) and thus leave a great triangular opening. This is designed to lighten the otherwise enormous pressure upon the lintel, for even that massive block — it is some 15 feet

Relieving space

long by 7 wide and $3\frac{1}{2}$ thick — could hardly have supported the superincumbent weight of a solid Cyclopean wall. The pressure thus relieved, the space is closed by a single slab 10 feet high, 12 feet long at the base, and only 2 feet thick. This was a favorite device with the Mycenaean builder, and we shall meet with it again in the great vaulted tombs.

The triangular slab is of native limestone and bears the famous relief which gives the gate its name. It represents two lions standing heraldically opposed, each with the fore paws planted on an altar-like pedestal. The lions are parted by a column with the upward swell peculiar to Mycenaean architecture, and crowned with a curious capital and entablature. Over the abacus runs a row of four disks surmounted by a second plate like the abacus. The disks obviously represent the ends of timbers laid close together on a beam (the abacus) and then covered over with cross-planks. Thus we have the section of a timber roof or ceiling translated into stone. The heads of the lions (now missing) were not of a piece with the bodies, but wrought separately, as is clear from the dowel holes in the necks, where they were bolted on. They must have been turned so as to face the visitor, friend or foe, as he approached from without: the space hardly admits of any other treatment. Colors may have been applied to accentuate certain parts of the body and to indicate the mane, as well as to relieve the column which in its present simplicity offers a marked contrast to the ornate pillar of the period as known to us in other examples. Until recently the lion relief was regarded as the oldest work of sculpture on Greek soil: while it can no longer claim this priority, it is still perhaps the most remarkable of its kind and age. But of its place in the history of art we shall have occasion to speak later. Here we are concerned only

The Lion Relief

with its office in the economy of the fortress. Whether we take the relief as profoundly symbolic or (perhaps with better reason) as purely decorative, the lions seem fitly chosen and happily placed. They remind us of "the golden hounds and silver, which Hephaestus wrought by his cunning to guard the palace of great-hearted Alcinous";[1] only there seems a more truly Hellenic felicity in this choice of the king of beasts to guard the gates of the King of Men.

Designs akin to the lion-relief occur on other contemporary monuments, particularly on many engraved gems. On a gem of this kind recently picked up by Dr. Tsountas in a tomb at Lower Mycenae, the subject is repeated (Fig. 131), but the animals are griffins instead of lions, and the pillar has a spiral fluting. But the most interesting analogy is afforded by the colossal lions carved above the doors of the rock-sepulchres of Phrygia, in attitudes very like that of the Mycenae group.[2]

Kindred designs

The postern in the north wall (B in Plan and Fig. 6) is a smaller gate, but of similar construction. Here the approach between the wall and tower is but 10 feet wide, while the opening (for a single door) measures but 5 feet 11 inches on the ground and 5 feet 4 inches at the top. Contrary to the general rule, however, the triangular arrangement over the lintel is not employed.[3]

Postern

[1] *Odyssey*, vii. 88 f.

[2] Ramsay, *Jour. Hellen. Stud.*, ix. 369; Perrot and Chipiez, *Hist. of Art in Phrygia*, p. 177.

[3] Schliemann (*Myc.*, p. 36), Adler (*Tiryns*, xvii.), and Schuchhardt (p. 143) all credit this gate with the usual triangular relieving slab. But, in fact, the space left was rectangular (as shown in the photographic view, Fig. 6), and this is filled with two rectangular slabs, — before and behind, — leaving a vacuum between them of 8 to 10 inches deep. Over these slabs the Cyclopean wall continues. The ordinary device for relieving the pressure on the lintel was evidently not considered necessary here, as the gate is so narrow.

This postern has been called the "Water Gate," and with especial propriety. For, as the most recent investigations[1] show, at the time of its erection it was very near the north-east corner of the circuit wall and so in the closest practicable proximity to the springs lying

Other exits

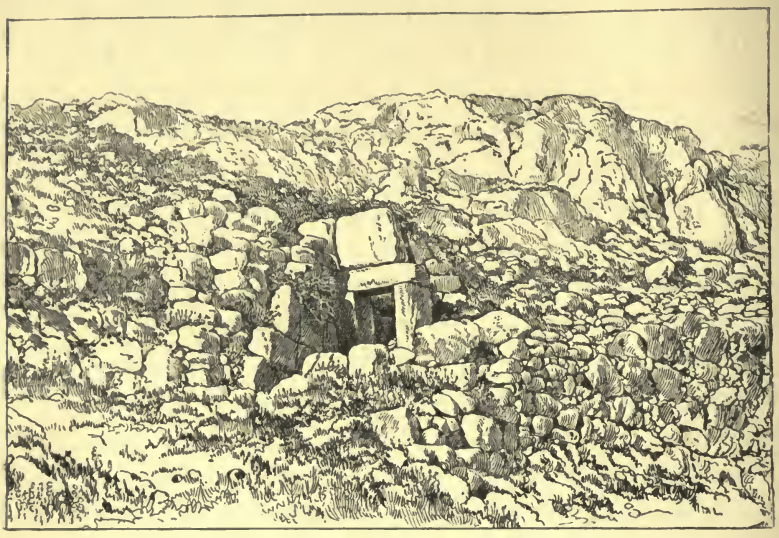


Fig. 6. Postern Gate of Mycenae

to the east and north-east of the fortress. Subsequently, as now appears, the fortress was enlarged in this direction (as well as in front) and the new walls extending some eighty feet farther east were pierced at three points: first, with the passage (K) already mentioned, and again with a small postern in the north-east corner — discovered only in 1895 — and a like postern opposite this on the south.

The castle circuit was the dwelling-place of the king and his retainers only, while the people lived without on the adjacent slopes and ridges. Moreover, as the remains

[1] Tsountas, *Jahrb. des Arch. Inst.*, 1895, p. 146.

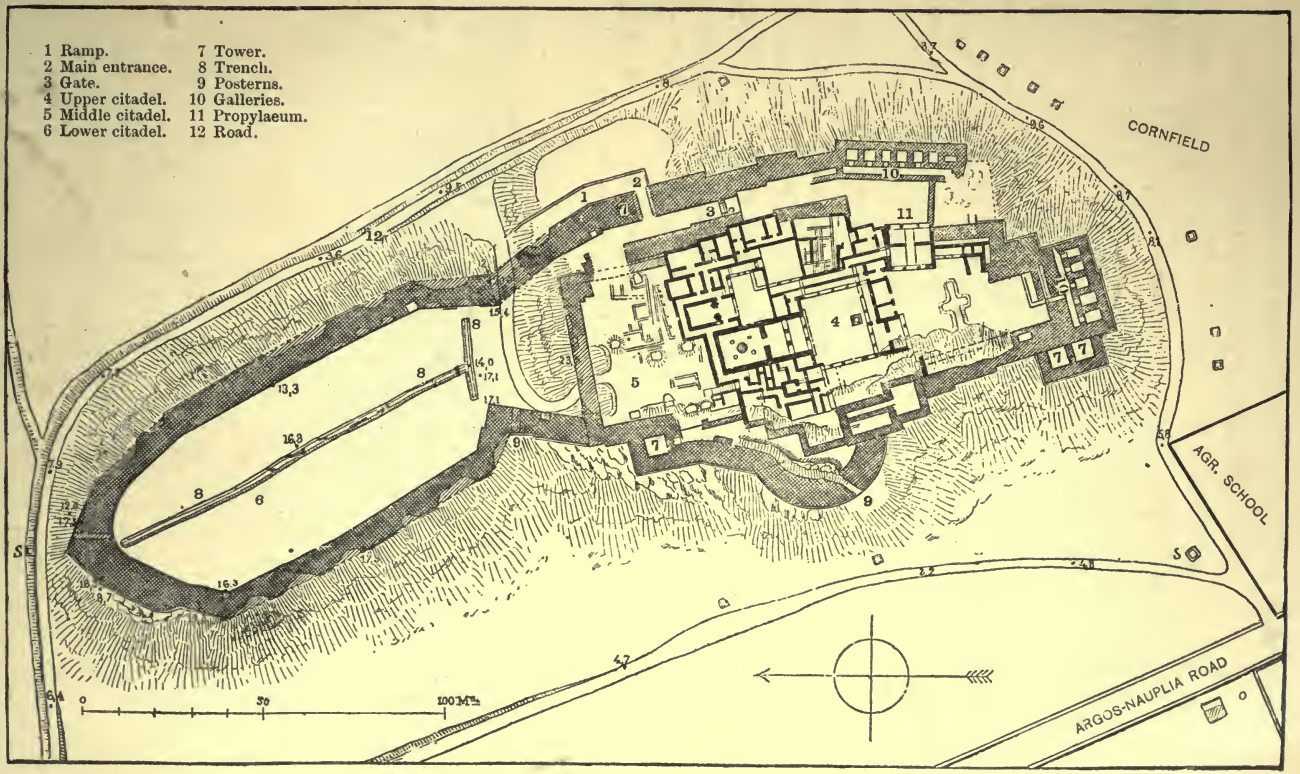


PLATE VI. PLAN OF THE CITADEL OF TIRYNS (BY DR. DÖRPFELD)

of houses and the grave-yards indicate, the lower town was not a continuous settlement but composed of groups of dwellings or little villages pitched wherever convenient sites invited. These unwalled villages were probably inhabited each by a single clan, that is to say, by a group of families descended or claiming descent from a common ancestor. Each group had its adjacent cemetery, and, owing to the occasional proximity of village to village, the tombs are sometimes found in the midst of the dwellings. In this half-rural quiet and freedom, we may assume, the Mycenaean folk went on living until at length it became necessary to inclose a part of the town with a wall, because the acropolis alone no longer afforded room for all the population which would seek refuge there in time of danger. Before the end of the Mycenaean age, indeed, under the pressure of the advancing Dorian, the need of a fenced city for the permanent

The Lower Town

Town Wall

Fig. 7. Section of Wall of Lower Town (Mycenae)

shelter of the whole people must have made itself felt. At any rate, the town wall, of which there are but scant remains, is obviously later than the circuit of the acropolis. This is shown by the close joints and the use of smaller stones in

its construction, — the largest in a given section (Fig. 7) measuring only $3\frac{1}{3}$ feet in length by 16 inches square. Of course, a wall so frail has been for the most part completely destroyed; still we can trace the course in part with certainty. Starting from the south-west corner of the citadel (in the Plan, its remains are noted at the point I), it at first followed a westerly direction, then bent to the south, keeping not far from the banks of the Chavos, and then again to the west. Its further course is very uncertain, but it seems to have turned to the north and followed the crest of the ridge (on which the chapel of Panagia now stands), until it rejoined the acropolis wall at its north-west corner. At the southern extremity, near the spot known as Makry Lithari, there are traces of a gate, as there must have been others at various points.

Streets

In Homer Mycenae is a πόλις εὐρυάγυια, that is to say, a city of broad streets; and the epithet is not out of place as applied to the suburban settlements. Between the separate villages, each composed of but few houses, and possibly between the several houses, once ran broad country roads. Not so, indeed, within the walls of the fortress and the town, where we cannot look for either regular or broad streets. In fact, in the excavations of the acropolis, streets were traced sometimes hardly 5 feet in breadth, and near the polygonal tower (to the right of the remains of a house marked F in the Plan) we have found a narrow flight of 32 stone steps, which do not belong to a house, but form a street of stairs leading up to the higher levels of the fortress. Just such staircase streets, hewn in the living rock, may be seen in many Greek towns to-day. For all that, there was, even within the acropolis, one broad road, in part indeed a carriageway. It started at the Lions' Gate, and winding first south and then east, at a

steep grade, ended at the foot of the ascent to the palace (M). The first section is over 16 feet broad and is, as far as now preserved, entirely artificial, being composed of four successive layers, first of stones and earth, second of large stones, third of pebbles, and finally of earth. This road-bed is supported on the right as one ascends, where the ground slopes away precipitously, by a Cyclopean wall. We shall see farther on that this made section of the road lay originally outside of the acropolis, to which it served as an ascent. When afterwards included in the acropolis, it formed an extension, as it were, of a longer road, which ran through the lower town from Makry Lithari to the Lions' Gate.

But the fortress-city required not only internal but external communications, and we find in fact a network of Cyclopean highways in the main binding together Mycenae and Corinth. The traces of these roads were discovered and noted by Captain Steffen, who gives a clear account of them in the text accompanying his excellent maps.[1] Cyclopean roads

One of these highways, starting apparently from the gate near Makry Lithari, led a short distance to the south, and there crossing the Chavos by a Cyclopean bridge, half of which still remains, continued to the Heraion, some three miles distant.[2] The Lions' Gate was the starting-point of three other roads. Of these the first ran north-west to the bed of the Cephissus, where it forked — the left branch probably leading to Nemea and Phlius, and the right to Cleonae and Corinth; the second was the short cut across

[1] *Karten von Mykenai, Erläutender Text*, Berlin, 1884.

[2] This was the Sacred Way to the national sanctuary, if we may ascribe to Mycenaean times the beginnings of the Hera cult on the spot where Mycenaean occupation is amply attested by beehive tombs — some of them but recently explored by the American School.

the mountains to Cleonae, whence it also went on to Corinth; the third and easternmost — again a mountain road to Corinth — passed through the district of Tenea near the hamlets Hagionori, Kleniae, and Chiliomodi.[1] These roads are 12 or 13 feet wide, and along the mountain-sides they are cut in the rock or supported by Cyclopean masonry, with frequent cross-drains (every two paces) to carry off the rainfall (Fig. 8). The mountain rills and ravines were bridged with the same Cyclopean masonry

Fig. 8. Cyclopean Road, showing Drains

which prevailed in the fortress walls, the courses converging, as in the corridors and chambers of Tiryns, to form the pointed arch, and being finally covered by a single block. As a single span of this construction afforded but a narrow water-course, we usually find several channels left through the bottom course of masonry to relieve the pressure on the main opening (Fig. 9). The narrowness of these roads, and the fact that they nowhere offer turn-outs for passing teams, as well as the exceedingly steep

[1] "In diesem Wege haben wir also vermuthlich die Hauptetappenstrasse der Mykenaier für ihre Verbindung mit Korinth zu suchen." — Steffen, *l. c.* p. 8.

PLATE VII. INTERIOR VIEW OF GALLERIES (TIRYNS)

grade (as much as 30–40°) where bridges or hills are to be crossed, all indicate that they were intended rather for beasts of burden than for wagon-traffic. Nevertheless light char-

Fig. 9. Cyclopean Bridge near Epidaurus

iots drawn by two horses could certainly pass over them. Even this was no small matter in a difficult mountain region, intersected by frequent torrents; and the three different roads to Corinth witness the great and prime

importance which the Mycenaeans attached to easy communication with that city.

and forts to guard them

Along some of the roads we still see ruins of towers and other fortifications intended for their protection. The most important of these is the fort on the lofty summit of St. Elias, which served at the same time as a watch-tower and beacon-station — commanding a wide prospect in all directions, and with its signal-fires warning the town betimes of an approaching foe. The essential part of this fort is a small castle crowning the almost inaccessible summit, 2640 feet above the sea. This is surrounded, wherever the rock is not too precipitous, by a series of walls at different levels, inclosing a space some 700 feet in circumference. Within these outworks rude houses were built for the garrison, and communication was maintained, by means of a small gate on the north-east side, with a fort commanding a spring of water on the Corinth road. From this eminence the whole Argolic plain and gulf and the mountain region to Corinth and beyond can readily be watched.

There are several towers which Steffen would connect with these Mycenaean roads; they do not, however, in fact belong to the Mycenaean age, but were probably built much later by the Dorian rulers of Argos. This is certainly true of the polygonal towers near Phichtia, which guard the entrance from Phlius and Cleonae into Argolis, and which are hardly older than the sixth century B. C. Contemporaneous with them are fortifications found in other parts of Argolis — for example, the so-called Pyramid of Kenchreae (south of Argos),[1] and a small fort crowning a rocky hill at Kophini, near Epidaurus.

[1] Probably nothing but a watch-tower, though taken by some for a monumental tomb. At the base it measures about 40 by 50 feet, and a narrow

We have now to consider the water-supply, aqueducts and drainage. There are few springs in Mycenae, and only one with an abundant flow. It is situated 390 yards east of the citadel, and an aqueduct now carries the water from it down to the village of Charvati. This spring is doubtless the Perseia, which the traveler Pausanias mentions as "in the ruins of Mycenae," thus indicating that in his time the water was

Water-supply: the Perseia

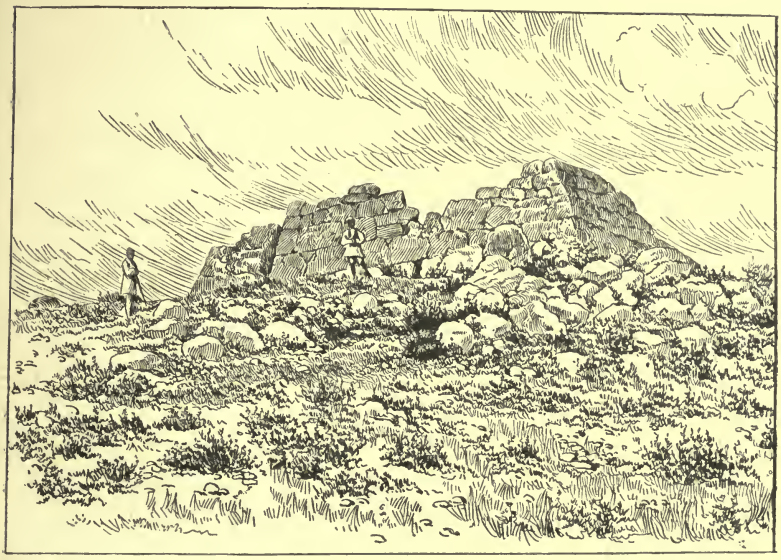


Fig. 10. The so-called Pyramid of Kenchreae

conducted as far as the city. In fact, under the north-west corner of the acropolis, very near the place where the present aqueduct passes, one can trace an older conduit. It is not, however, of a very early date; for while in places it is cut in the living rock, elsewhere the cutting is in massive blocks that had already fallen from the acropolis wall;

passage leads to an interior space (some 60 feet in area) which was originally divided into two chambers.

hence, in all probability, the work is later than the catastrophe of 468 B. C. In the Mycenaean age, apparently, the water of the Perseia was not conducted into the citadel; but owing to the difficulty of such an undertaking, perhaps also to facilitate the supply of the lower town as well as of the citadel, the conduit seems to have been led along under the northern wall to a point not far from the Lions' Gate.

The Secret Reservoir

Another spring, small but unfailing, bubbles up to the north of the acropolis, about 325 feet in a straight line from the wall. The water from this source was probably carried by a conduit as far as the foot of the citadel hill, and there discharged into a deep well from which there was underground communication with the interior of the citadel by the passage already mentioned (p. 28). This passage pierces through the north wall and then continues underground, bearing north for a short distance, then west, and finally north-east. Its entire length outside of the wall is about 130 feet and, following the declivity, there are 99 steps, mostly of stone slabs, — 16 of them within the body of the wall, and 83 outside of it, — leading down to the end of the passage. Here we find a well, or rather a well-like reservoir, 12 feet deep and $2\frac{3}{4}$ feet square. A part of the passage near the reservoir is roofed with great horizontal slabs, while elsewhere the walls converge in the upper course to form the Cyclopean arch. At the end of the passage its height is $14\frac{3}{4}$ feet, its width about $4\frac{1}{2}$ feet; and exactly over the reservoir is a large opening in the roof (here horizontal) through which emptied the underground conduit coming from the spring. As the passage was completely hidden without, there was little danger of its being discovered and the water cut off except through treason within the walls. The purpose of this astonishing

and truly Cyclopean work is clear: as the science of the time was unequal to the task of carrying the water from this lower spring into the acropolis, it was conducted to the most convenient point in the course of its natural flow, where a reservoir had been prepared to receive it and a covered communication with the citadel provided. Thus in time of siege the water-supply was secured. Even if the spring were known to the enemy, it lay quite near the acropolis wall and was easier to defend than the Perseia.[1]

Although the present inhabitants of Mycenae declare this spring to be unfailing, its flow is no longer copious. But in earlier times, before the destruction of the forests, the water must have been more abundant. Nevertheless, either because even then it was not always sufficient or because it might be completely cut off by the enemy, the passage was built with a view to serving also as a cistern for rain-water. For this reason all the steps are coated with a stucco of lime and sand, as are also the walls of the lower half near the well. To this must be due also the greater height (14¾ feet) of the passage at this point. By closing the aperture through which the water from the conduit flowed, half of the passage was transformed into an immense cistern. We ought, however, to remark that the plaster (as now preserved) of the steps and walls is not the pure lime coating of the Mycenaean age, but belongs to repairs made probably in the second century B. C., when, as we have seen, the long deserted fortress was again occupied.

A third spring, with very slight flow and — now, at

[1] This water communication must be of the same date with the eastern extension of the wall, in which we find its starting-point. It is far less likely, indeed, to have been in the original plan of the fortress than an afterthought — perhaps the fruit of bitter experience.

least — not perennial, bubbles up in the ravine of Agriosukia north of the acropolis. Of much greater importance to the lower town than any other source except the Perseia were two wells which are still in use, the *Epano Pegadi* or upper well, and farther south the *Kato Pegadi* or lower well. Beside the spring in connection with the underground passage, the citadel had other reservoirs from which it drew water. As we have seen, the underground passage itself, on occasion, served this purpose, and four others, one square, three circular or elliptical, lie on the west slope of the acropolis. It cannot be maintained, however, that they all belong to the Mycenaean age; in fact, one of them, the southernmost, which is now destroyed, was found to have remains of Mycenaean houses under it, and so certainly to be of a later date. This is very probably the case with two of the others. The fourth and largest, which was discovered only in 1890, belongs indisputably to the Mycenaean epoch. Its form at bottom is an oblong, 26 feet in length by 13 wide, while above its two long walls converge until they almost meet. The covering is then completed by slabs, leaving only two broad slits, through which the rain-water could flow in and be drawn out. The depth of this cistern is $4\frac{3}{4}$ feet, and its inner walls are covered with a plaster of lime and sand belonging to repairs of later times; originally the plaster was of pure lime. It is not improbable that this and the underground passage were the only reservoirs in which rain-water was collected in the Mycenaean period, the one draining the eastern, the other the western slopes. There is indeed a well cut in the soft rock near the prehistoric houses (F in the plan), but it has not yet been cleaned to the bottom, and its use remains uncertain.

Cisterns and Wells

As with the water-supply, so likewise with the drainage,

great pains have been taken. Drains have been discovered in the palaces of Mycenae and Tiryns, and many more under the streets and houses of the Mycenaean acropolis. All are narrow and shallow, generally formed of small slabs and covered with the same materials. These drains must have had a thick coating of plaster to prevent the escape of water, but the plaster of the period, composed as we know of clay or lime alone, was easily dissolved by water, and hence but scanty traces of it can now be made out. We find also drains built of burnt brick, but covered with slabs of stone as above described; a section of one of these has the shape of the letter Π turned upside down. At several points occur openings through the wall, by which the drains discharged outside the citadel; one of these shows in the lower part of the polygonal tower (Fig. 5). The drains are provided with shafts at regular intervals.

Drainage

The importance of a good drainage is apparent when we consider the nature of the ground. Without such provision, a heavy rain would turn these steep and narrow streets into torrents, flooding and seriously injuring the houses.

CHAPTER III

THE PALACE

Thus far we have recovered in various stages of preservation at least three Mycenaean palaces, viz., at Tiryns, Mycenae, and Gha (or Arne), not to mention the scanty remains on the Athenian acropolis or the palace of the second city on the hill of Hissarlik (Troy) which is now known to be indefinitely earlier than the Mycenaean age. Of all these the palace at Tiryns is far the best preserved and most certain in its ground-plan. We shall therefore study it in detail before proceeding to the palace at Mycenae, with which Time and the destroyer have dealt more ruthlessly.[1]

The palace of Tiryns, brought to light by Dr. Schliemann in 1884, occupies the highest of the three plateaus composing the acropolis. To reach it you ascend the great ramp under the eastern wall, pass through the open entrance, traverse the high-walled approach and enter the inner fortress by the great gate (Θ). From this the road leads up to a large court, closed on the east by the circuit wall which here bears a covered colonnade opening on the interior of the fortress. Over against this colonnade is the outer gate of the palace (H). It is a spacious and stately portal — about 46 feet wide — composed of a

Outer Gateway

[1] Of other palaces we shall have occasion to speak only by the way, but that recently discovered on the island of Goulas (or Gha) in Lake Copaïs will claim more careful notice (Appendix B).

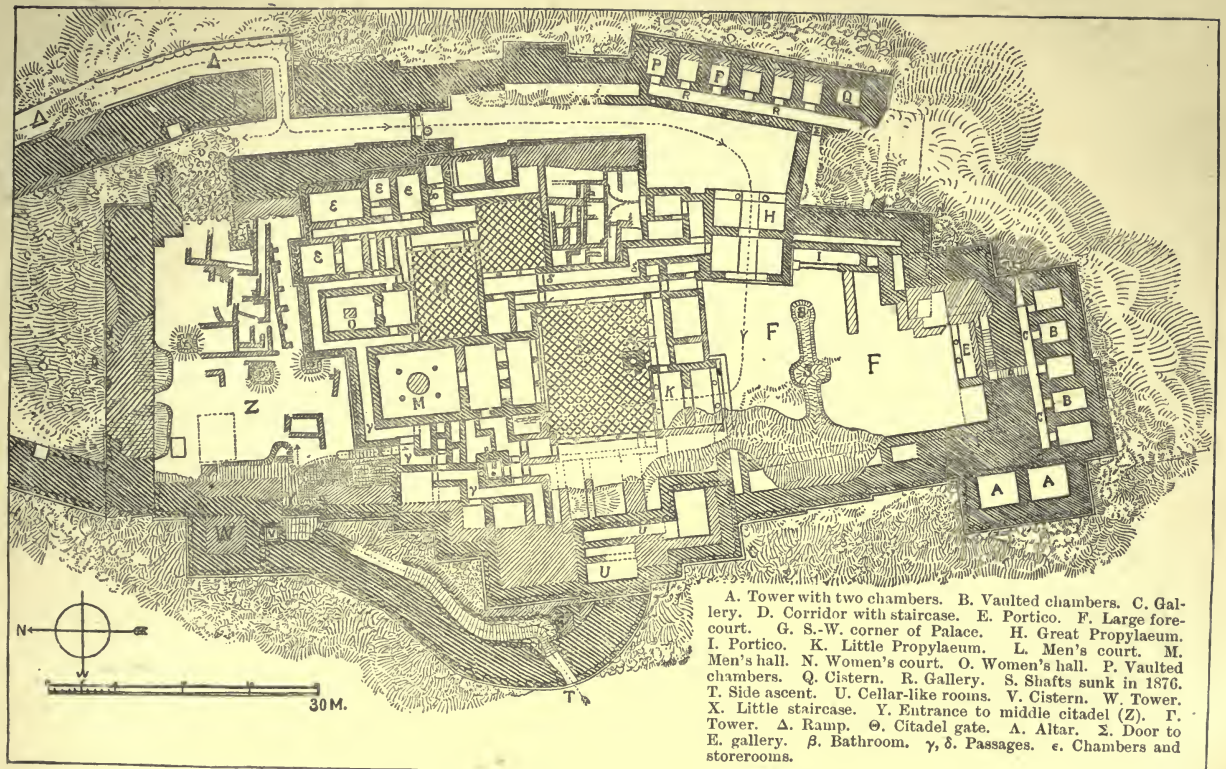

A. Tower with two chambers. B. Vaulted chambers. C. Gallery. D. Corridor with staircase. E. Portico. F. Large forecourt. G. S.-W. corner of Palace. H. Great Propylaeum. I. Portico. K. Little Propylaeum. L. Men's court. M. Men's hall. N. Women's court. O. Women's hall. P. Vaulted chambers. Q. Cistern. R. Gallery. S. Shafts sunk in 1876. T. Side ascent. U. Cellar-like rooms. V. Cistern. W. Tower. X. Little staircase. Y. Entrance to middle citadel (Z). Γ. Tower. Δ. Ramp. Θ. Citadel gate. Λ. Altar. Σ. Door to E. gallery. β. Bathroom. γ, δ. Passages. ε. Chambers and storerooms.
N
W
30 M.

PLATE VIII. PLAN OF THE UPPER CITADEL AND PALACE OF TIRYNS

middle wall, pierced by folding-doors and covered by an outer and an inner portico. Each of these porticoes has the form of a temple *in antis*, that is to say, its façade is decorated by two columns between two pilasters formed by the prolongation of the side walls. This gateway opens into the great fore-court (F) around which we still trace two small porticoes and several small chambers, though the plan is partly obscured by later building and a land-slip on the west. At the north-west corner of this fore-court is a second gateway (K) on the same plan with that just described but somewhat smaller, being only 36 feet in breadth. In each of these portals we have the prototype of all Greek gateways of later times. Even the Propylaea of the Athenian acropolis is composed of the same essential elements as these at Tiryns — only at Athens the central wall is pierced with five gates and the hexastyle porticoes are treated with a corresponding variety and splendor.

Inner Gateway

This inner gateway opens into the chief courtyard of the palace, the Men's Court (L) — a quadrangle, measuring 52 by 66 feet.[1] This court is almost surrounded by colonnades; but, as in the propylaea and the fore-court, only the stone bases remain, the wooden pillars having perished. Midway along the south side of the court before the portico stands a quadrangular block of masonry (measuring 8 by $10\frac{2}{3}$ feet), with a central circular cavity some 4 feet in diameter but less than 3 feet deep.

Men's Court with Altar

[1] "The whole floor is still covered with thick lime concrete, injured only here and there. The escape of rain-water is very carefully provided for, for the surface of the concrete is so leveled that the water runs off to a single point on the south side. There we find a vertical shaft, built of rubble and covered with a stone flag. Through a hole in this covering stone the water fell down the shaft and so reached a walled horizontal canal that probably led it to some reservoir." — Dörpfeld, *Tiryns*, p. 203.

This was undoubtedly an altar or, more strictly speaking, a sacrificial pit.[1]

The Men's Hall

Exactly opposite this altar on the north side of the court two stone steps lead up to a vestibule, again faced with two columns between two pilasters. This in turn opened by three folding-doors into a room which served as the antechamber to another larger room (M) lying behind it. This suite, occupying the very highest level of the citadel, is obviously the centre of the whole palace; and in view of its close correspondence with the heart of the palace, as described by Homer, we may apply Homeric terms. Our vestibule, then, will answer to the Homeric *aithousa;* our antechamber to the *prodomos;* and our great hall (M) to the *megaron*.

Aithousa and Kyanos Frieze

The side-walls of the vestibule, which have a set-back of some 16 inches immediately behind the antae, obviously required a casing of some kind; and, in fact, along the foot of the west wall was found a frieze of alabaster slabs (Fig. 11) resting on the ground and reaching all the way from the anta to the back wall. For structural reasons Dr. Dörpfeld at first held that the frieze could not have been originally designed for this place,[2] but he now admits that "it may have been made for the

[1] When first found in 1884, the circular opening was blocked up, and Dörpfeld took the block for an ordinary domestic altar, like that of Zeus Herkeios in the court of Odysseus' palace, whereon "oft Laertes, and Odysseus too, had burned the thighs of kine" (*Od.* xxii., 334; cf. *Il.* xi. 772–7). Its size (he says) was sufficient to burn a whole victim at once. But in the excavations of 1885 he discovered the opening. "At first we thought that our altar must, after all, have been a cistern or a well. But when we had the central hole excavated, it was discovered that the circular masonry only reached to a depth of 0.90 metres. Further down there were neither side walls of masonry nor any artificial floor. As the hole could by no means have been either a cistern or a well, it must have been a sacrificial pit. Similar sacrificial pits have been found in the Asklepieion at Athens and in Samothrace."

[2] See *Tiryns*, p. 291 f.

vestibule at the time of some thorough restoration of the old building, and it need not be assumed that it had been placed elsewhere first." These slabs of alabaster are carved with a rich pattern — the motives being palmettes, rosettes, and spirals — and inlaid with blue glass paste. This paste, it is now agreed on all hands, is the Homeric *kyanos* — which enters into the splendid decoration of the palace of Alcinous.[1] The poet must have fancied it employed as we

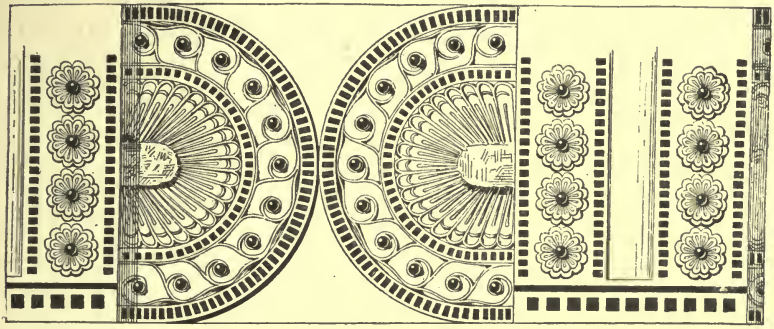


Fig. 11. The Kyanos Frieze.

actually find it in the palace of Tiryns. As we cannot take Alcinous' brazen walls to be of solid bronze but only enriched with bronze plates, so the frieze of his megaron cannot be of solid *kyanos* but simply inlaid with it. In its composition, which is repeated with slight variations in other works of the same period from Mycenae and Menidi, the frieze recalls the triglyphs and metopes of the Doric temple, with which possibly it may stand in some distant relation.

Three large folding-doors, occupying almost the whole partition wall, opened from the vestibule into the antecham-

[1] *Odyssey*, vii. 80 : "Brazen were the walls, which ran this way and that from the threshold to the inmost chamber, and round them was a frieze of blue" (kyanos). On the kyanos frieze, see Dörpfeld, *Tiryns*, 284–292.

ber. Each of these doors must have had a separate door-case (about a foot thick), into which the open door fitted so as not to narrow the entrance. The ante-chamber itself (of about the same dimensions as the vestibule) has a single door in the west wall leading toward the bath-room, but there is no direct communication on the east with the women's apartments. From this fore-hall, a single doorway ($6\frac{1}{2}$ feet wide) opens into the megaron. Here the great breccia doorsill is still in place, but without the usual pivot-hole, thus showing that the doorway was closed only by a curtain.

The Prodomos

The Great Hall incloses an area of about 1235 square feet.[1] Its roof was supported in part by four wooden pillars, whose stone bases are still in place, as indicated in the Plan. In the centre of the space defined by these pillars was the great circular hearth, now unfortunately destroyed, although we can still clearly distinguish its position.

The Megaron

In the west wall of the vestibule, as already noted, is a door opening into a narrow corridor which leads by several zigzags to a small square chamber (β). The floor of this chamber is made of one great limestone block, measuring about 13 by 11 by $2\frac{1}{4}$ feet, with an estimated weight of some 25 tons. Dowel-holes disposed in pairs at recurring intervals, except where space is reserved for the door, indicate that the walls were wainscoted with wooden panels; and there is a square gutter cut in the flooring-block at the north-east corner of the chamber and connecting with a stone pipe which reaches through the eastern wall. These arrangements prove beyond a doubt that we have here found that indispensable appointment of

The Bath-room

[1] "It exceeds in size the cellas of many Greek temples, — e. g., that of the Theseion at Athens covers only 817 square feet." — Dörpfeld.

the Homeric palace, — the bath-room. Fortunately, too, we have found fragments sufficient to determine the pattern, material and decoration of the bath-tub. The pattern is very like that in use to-day, but the tub is made of coarse red clay not susceptible of a high polish. It has a thick rim and stout handles on the sides; and the decoration inside and out is composed of stripes and spirals painted in white on the red ground.

The Bath-tub

From the bath-room we pass by zigzagging corridors (γγγ) and several doors quite around the megaron into another court (N), which communicates more directly with the fore-court (F) by the passage (δδ). This quadrangle (some 60 by 30 feet), with two small porticoes on the west and north-west and traces of benches against the wall, is taken to be the Women's Court. The Women's Hall, opening upon it, is smaller and simpler than that of the men. There is but one fore-hall, an open portico (18 by 20 feet), leading by a single doorway into the hall (20 by 26½ feet), which has a square central hearth but no pillars. The portico has a door at each end opening into a corridor, which runs around three sides of the hall and communicates with various chambers — one of them apparently provided with a stairway leading to an upper story or terrace. The suite immediately adjoining the women's hall on the east (ε), Dr. Dörpfeld takes for the Royal Bedchamber answering to the θάλαμος ἔσχατος of Odysseus and Penelope.[1] Adjoining the Women's Court on the south-east lies an open square or fore-court; and beyond this again a mere chaos of intersecting walls from which it is impossible to work out any certain plan.

The Women's Apartments

Still the structure as a whole offers a ground-plan that is

[1] *Odyssey*, xxi., 8 ff.

clear, simple and practical. The palace is composed of two main suites, one for the men, the other for the women, each with a court of its own. Both quarters communicate directly with the outer court (F), though their communication with each other is only by narrow and winding passages. In easy reach from the men's hall is the bath-room, to which by Homeric custom the guest was conducted on his arrival. Adjoining the women's hall is the Royal Bedchamber, and disposed about the same quarter of the palace are lodgings for the rest of the household, storerooms and the like.

General Plan of the Palace

The principal building materials employed in the palace of Tiryns are limestone, breccia,[1] sandstone, clay, lime and timber. The lower part of the walls, as a rule, was built of rubble masonry, but in the upper part sun-dried bricks are used as well. In two places only (the hall and outer court of the women), the brick wall starts from the ground, and is therefore in part preserved. Elsewhere only the rubble footing (about a metre high) is left; but nearly every room was found littered with bricks, so as to leave no doubt of their free use in the walls. To strengthen these walls, at intervals wooden beams were built in lengthwise. Such "tie-beams" are still much used in the East, as they were in classical antiquity.[2] Walls thus built would be far from weather-proof without a good outside coating, and this was provided at Tiryns first by a layer of clay to

Materials and construction

Walls and Frescoes

[1] "Breccia, a conglomerate of pebbles, is used as freestone for door-sills and antae blocks; the gigantic door-posts of the gate of the upper fort are also of this material. In proportion to limestone breccia is very little used; for it is harder, and hence more troublesome to quarry. Sandstone is used less than breccia, only indeed for some antae-blocks and for the lower step of the great Megaron." — Dörpfeld, *Tiryns*, p. 255.

[2] Cf. Winckler, *Die Wohnhäuser der Hellenen*, p. 77 f.

give an even surface, which was then covered with a smooth coat of pure lime. For burnt lime was already known and freely used, but only as plaster or cement, never as mortar in laying up walls.[1] On the inner walls this lime plaster was often painted with frescoes — in black, white, red, yellow, and blue — and many fragments of these frescoes have been found with their colors still fresh and bright. The most notable fragment from the Tiryns palace represents a bull coursing at full speed with a man apparently swinging himself on to the animal's back and seizing him by the horn, — a subject repeated with slight variation in the Bull Hunt on one of the Vaphio cups. Another fragment (Fig. 13), belongs to a border which offers a remarkable parallel to the design of the carved ceiling at Orchomenos.

The flooring of the palace is a concrete of lime and

Fig. 12. The Tiryns Bull (Fresco from Palace)

pebbles. In the more exposed places — as the men's court and the outer propylaea — the pebbles so predominate as

[1] "Only in aqueducts do the Greeks in early times seem to have used lime mortar." — Dörpfeld, *Tiryns*, p. 255.

to form a kind of mosaic, but in the inner rooms they are little used, and the smoother floors (e. g., of the men's hall with its vestibule and the women's hall) are laid off in checkers by incised lines. Apparently

Flooring and Doors

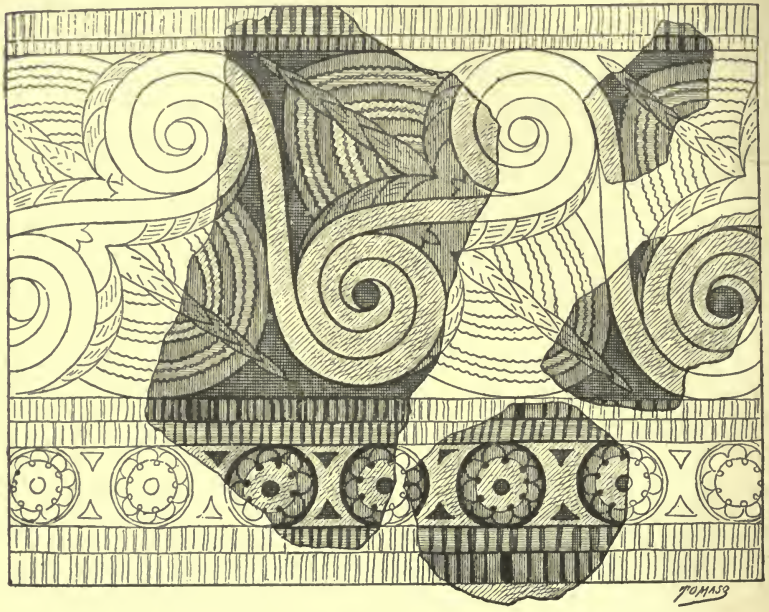


Fig. 13. Wall Painting (Tiryns)

the checkers were painted red, and defined by narrow bands of blue, thus giving somewhat the effect of a carpet pattern. The door-sills were either of wood or of stone — in the latter case always of a single block,[1] while the door-

[1] In Homer the stone threshold leads, though the poet mentions also sills of oak, ash, and bronze. "We find in Tiryns stone and wooden door-sills; twenty-two well-preserved stone specimens lie still *in situ;* the wooden are gone, but remains of charcoal testify to their place. Of the twenty-two extant door-sills, only six are of breccia, the rest of close-grained limestone. The kind of wood in the other sills is not known, nor whether perhaps some of them were covered with bronze plates." — Dörpfeld, *Tiryns*, 276.

posts were of wood — probably of one thick trunk, but generally set on square sandstone bases, two feet high, some of them doweled to receive the upright. The wooden doors revolved on pivots sheathed with bronze. One of these bronze sheaths [1] was found in its socket in the sill of the door leading into the women's apartments.

The column which plays so large a part at Tiryns was also of wood, while the base was of stone so imbedded as to rise but little above the ground. The fact that not a vestige of shaft or capital remains, while we find thirty-one stone bases *in situ*, is sufficient proof that the pillars were of perishable material, and the evidence of their destruction by fire is conclusive.[2] Columns

We come now to a more difficult problem: How was this great pile roofed over? In the *débris* we find neither tiles nor roofing stones, and so we are shut up to one of two hypotheses: that of the flat clay roof and that of the steep roof thatched with rushes — like Achilles' quarters in the camp at Troy,[3] or the houses of Sardis.[4] As has been shown by the accomplished architect to whom we owe the scientific excavation as well as the clear interpretation of this palace, the thatch roof could not have been used at Tiryns. Says Dörpfeld:[5] "A rush-thatch, like one of straw, requires a steep roof, that the water may not penetrate, but run down the individual straws. Such a roof may be well suited for an isolated house; but to thatch a great system of buildings like the palace of Tiryns Roofing

[1] "It is a hollow cylinder of 118 mm. diam. inside, and closed below like a ball. The square cut in the cylinder is to receive the lower frame of the door, which was mortised into the side beam used as the turning-post." — Dörpfeld.

[2] Cf. Dörpfeld, *Tiryns*, p. 270 f.

[3] *Iliad*, xxiv. 450 ff.

[4] Herodotus, v. 101.

[5] *Tiryns*, 272 f.

in such a way is simply impossible, for if the whole building was to be provided with one single-ridged roof, the height at its centre would be far too high; but if you make several, then there must be gutters between, which could not be made water-tight with rushes. . . . There remains the covering with clay. Every clay roof must be nearly horizontal if the first heavy shower is not to wash down the whole covering. On the great epistyles or girders came the rafters proper, either separated or close together, like the round timbers on the façade of the beehive tombs or in the lions' relief at Mycenae. In the former case the intervals were bridged with cross-pieces of wood; in the latter rushes were sufficient to afford a close bed for the clay. We must assume that the whole roof, as is still commonly the case in the East, was covered with a thick layer of clay."

In the case of the Great Hall, the roof problem was complicated with that of lighting, and was probably solved by the application of the clerestory principle. "The arrangement of the four inside pillars and of the great hearth in their centre appears to me [says Dörpfeld] to point to there having been some aperture in the middle of the hall. It might be assumed that the whole square between the pillars was open; but so large an aperture, even in the southern climate of Tiryns, would have made the hall temporarily uninhabitable in winter. It would answer much better to cover the square included by the pillars, after the manner of a basilica with a higher roof; in the vertical walls of the upper structure (clerestory) smaller or larger apertures could be introduced, through which not only light would enter into the megaron, but also the smoke from the hearth would find an easy escape. If we assume this kind of lighting, it follows that the roof was constructed by laying two

or four great girders upon the pillars which supported directly the beams of the lower roof. The beams covering the central structure lay somewhat higher." [1]

The palace is surrounded for the most part by a wall of its own, which served at once as an inclosure and as a retaining wall for the embankments used in leveling up the surface.

To return, now, to Mycenae. There, again, the palace occupied the very summit of the citadel — a far sightlier and more commanding eminence than that of Tiryns. Here, too, as at Tiryns and Athens,[2] when kings by divine right (διογενεῖς) had had their day in Hellas, the palace gave way to a dwelling for gods in their own right. As early as the sixth century a Doric temple (65 by 140 feet) was built upon the summit, and stood there down to Roman times. The temple foundations lie in part above the ruins of the palace, while on the higher level to the north the palace walls appear to have been destroyed to clear the ground for the sanctuary. The Mycenae Palace Site

Thus it happens that the palace remains, as we now see them, occupy only the lower (S. W.) part of the summit. There is no doubt, however, that the building extended as far north as did the temple later, namely, to the wall which served at once for a retaining and inclosing wall (like the palace peribolos at Tiryns), and probably coincided on the south with the circuit-wall. At the very summit the rock is partly leveled, but all traces of building have disappeared; while the foundations on the south and west, lying some thirteen feet lower, were early buried under the *débris* and so preserved.

[1] *Tiryns*, 218 f.

[2] At Tiryns, as early as the fifth century, a Doric temple was built over the men's hall; and on the Athenian acropolis, we find the "old temple" covering some of the scant remains of the prehistoric palace.

In its ground-plan the palace of Mycenae corresponds generally with that of Tiryns, but with considerable differences in detail, owing mainly to the very dissimilar site.

Approach to Palace

Thus the road from the Lions' Gate, instead of leading directly to the outer propylaeum of a great court on the same plane with the palace, came to an end at the foot of the rocky elevation which the palace crowned. Instead of the imposing propylaeum, we find scant remains of a gateway leading to a little court (N), with stone benches along two of the walls,[1] whence a great flight of steps ascends to the principal court (P) of the palace. This stairway is 7 feet 10 inches broad, and 22 of the steps are still in place, — each with a rise of 4 to 5 inches, and a tread of 14 to 18 inches, thus forming an ascent as easy as it is ample. These steps are not single slabs, but each is made up of three or four blocks of hewn poros set end to end, yet so thickly coated with plaster as to hide the joints and give the impression of solid work.

The court to which the stairway led is almost a square (37 ft. 9 in.), and paved with concrete. On its east side

Men's Quarter

lies the men's quarter, composed, as at Tiryns, of the vestibule (Q), anteroom (R), and the Great Hall (S). The vestibule, here paved with stone, presented the usual front, — two wooden pillars between antae; and over against these pillars is the entrance of the anteroom — a single door (6 feet 5 inches wide) instead of three folding-doors as at Tiryns. The concrete floor of this room has a continuous border of flagstone over a yard wide. From the anteroom we enter the megaron by a single doorway which (as at Tiryns) was closed simply by a curtain. The hall measures 27 feet 9 inches by 42 feet 5 inches, thus being considerably larger than its fellow at Tiryns, though

[1] Recalling the polished stones before Nestor's palace. — *Odyssey*, iii. 406.

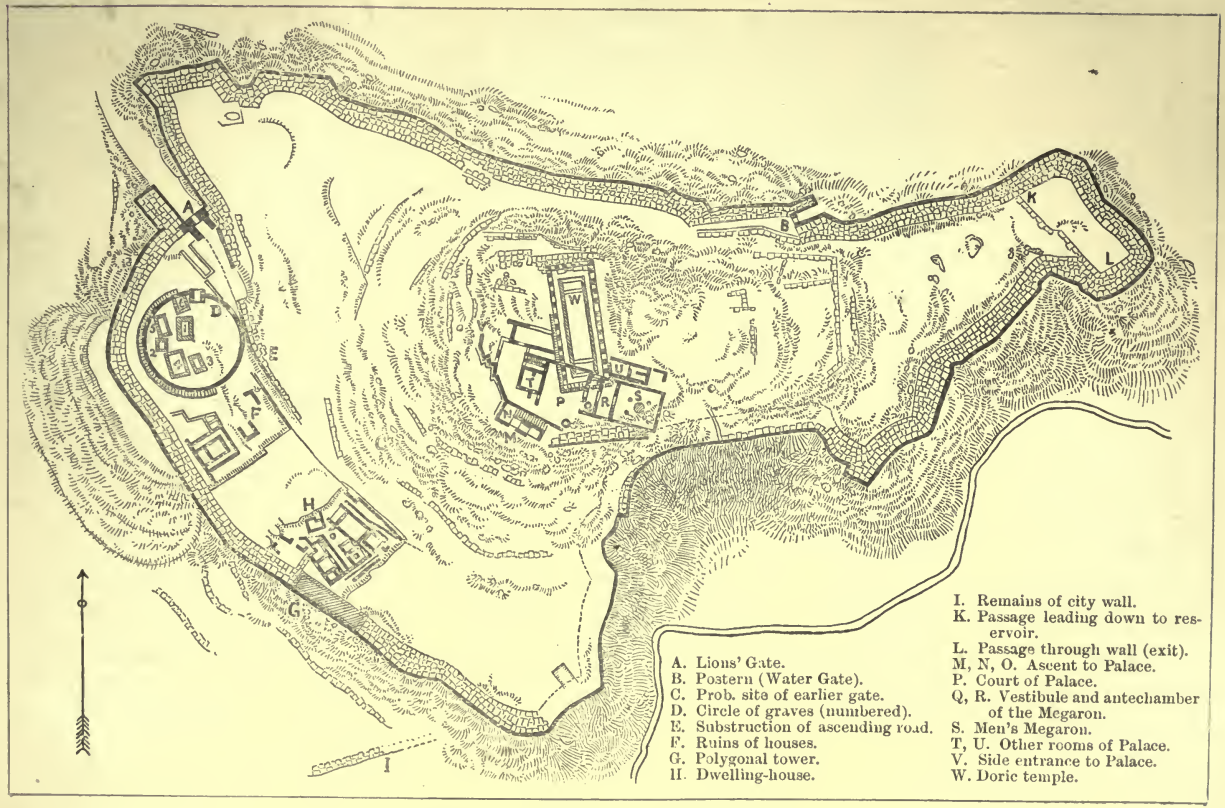

A. Lions' Gate.
B. Postern (Water Gate).
C. Prob. site of earlier gate.
D. Circle of graves (numbered).
E. Substruction of ascending road.
F. Ruins of houses.
G. Polygonal tower.
H. Dwelling-house.
I. Remains of city wall.
K. Passage leading down to reservoir.
L. Passage through wall (exit).
M, N, O. Ascent to Palace.
P. Court of Palace.
Q, R. Vestibule and antechamber of the Megaron.
S. Men's Megaron.
T, U. Other rooms of Palace.
V. Side entrance to Palace.
W. Doric temple.

PLATE IX. PLAN OF MYCENAE

the anterooms here are decidedly smaller. As at Tiryns, the roof of the megaron was supported by four wooden pillars, and in the centre of the square defined by their stone bases we again find the circular hearth. Enough remains to show that it was some 11 feet in diameter, and raised by two low steps only 6 inches above the floor.

This hearth was made (as they are still made in the coun-

Fig. 14. Hearth of the Palace at Mycenae

try districts) of beaten earth, and then overlaid with five successive coats of stucco. Each of these had been painted, showing that the several coats were not laid on at once, but that the stucco and the paintings were from time to time renewed. A view of this hearth from a photograph is given here (Fig. 14), with Dr. Dörpfeld's drawing of the exquisite design on the third layer, which is thus described by Schuchhardt-Sellers: "The vertical surface of each step is decorated with spherical tri-

The Hearth

angles; the one set is colored gray and white, the other red and blue, each of the white fields being filled up by a small star. The horizontal surface connecting the two is colored blue. At the top a band of spirals, painted white, with blue dots in the centre, and inclosed by red and blue lines, runs around the hearth."

The floor is in the main of concrete, laid off in squares by incised lines as at Tiryns, but along the walls runs a wide border of flagstones, such as we have already noted in the anteroom. The walls, again, were plastered and frescoed. These frescoes are distributed in horizontal bands, with a wide range of design, including not only linear motives but figure subjects. Indeed, we can almost piece together a great composition in which hoplites and horses (very like camels) play a conspicuous part.[1]

The south side of the court is destroyed, but its north wall is still standing to the height of 7 feet 10 inches. This is laid up in regular courses of dressed sandstone blocks, with the clay still showing in the joints. Not only so, but between the two lower courses there is also a horizontal beam as in the palace walls at Tiryns. This tie-beam is quite unnecessary here, where the courses are already horizontal, and is to be explained as a survival from the earlier rubble masonry.[2]

The Men's Court

Part of the courtyard was covered by the foundations of the temple until late in 1893. On clearing it then, three stone bases were found which had undoubtedly fallen from its north wall. This indicates the existence there of a three-pillared portico opening upon the court, exactly as at the north end of the men's court at Tiryns.

[1] See *Eph. Arch.*, 1877, Plate II.

[2] Reichel (*Ueber Hom. Waffen*, p. 141), recognizes the same construction in the walls represented in the Siege Scene, Fig. 95.

Along the west side of the court, but not communicating directly with it, lies a large room (T) measuring about 21 by 24 feet. Against its north wall there is a square hearth (about 31 by 42 inches and 2 inches high), exactly like the hearth in the huts of the peasantry to-day. To the north of this room a corridor

Other rooms, with hearth and stairway

Fig. 15. Wall-painting from Mycenae

leads from the courtyard to an open place, perhaps an outer court, on the west; and on the right of the entrance to this corridor at the north-west corner of the court there are remains of a stairway ascending to a terrace or second story above the corridor and the room (T). Of this staircase we have left two stone steps (with a rise of 6 to 8 inches and a tread of 12 to 14) and a landing (3 feet 4 inches by 3 feet 7 inches) above which the steps were of wood.

Farther to the west (beyond the outer court mentioned above) there was a second palace gate (V) probably intended for communication with the women's apartments as the great staircase on the south-west served for the ascent to the main court and the men's hall. And, in fact, the rooms to the north of this court and the megaron, so far as their scant remains enable us to make out, appear to have belonged to the women's quarter with its dependencies.

Postern and Women's Quarter

As at Tiryns, then, we have here two distinct suites, one for the men, the other for the women. These communicate with each other, first by the outer court and two passages, and secondly by a door in the north wall of the vestibule of the men's hall, so that one could pass much more directly than at Tiryns from the men's apartments to the women's.

The walls of the palace at Mycenae are built like those at Tiryns, although less use is made of crude bricks. Lime is employed as at Tiryns for plastering the walls, cementing the floors and the like, but never as a binding material. No roof-tiles are found, but instead fragments of a layer of clay and lime, still showing the impression of reeds and twigs. Hence the certain conclusion that the roofs were flat like terraces and formed very much as Dörpfeld conceived them at Tiryns — namely, by laying a ceiling of wooden beams from wall to wall, covering these with a bed of reeds or twigs, and this again with two layers, one of clay and the other of lime. The megaron at Mycenae would be roofed and lighted, as at Tiryns, on the clerestory principle. The door-sills were for the most part of stone, but the door-posts of wood on stone bases. The wooden doors turned by their pivots in grooves in the threshold and lintel, as noted in our description of the

Construction

Lions' Gate. Of the ornamentation of the doorways we can learn nothing from what is left of either palace; but we have light on the subject from an unexpected source. A rock-hewn chamber tomb, recently (1895) discovered at Mycenae, exhibits a façade plastered and then painted with rosettes, clearly in imitation of an actual doorway (Fig. 16).[1] The colors used are few and simple,—black, white, red and yellow; but their harmonious combination and the grace of the design, which recalls the exquisite door of the Erechtheion, assist us to some faint conception of the splendor and beauty of the palace portals, enriched as they no doubt were with lustrous metals. Of such enrichment we have many a note in Homer. Alcinous' palace is provided with golden doors framed in silver jambs and lintel and a threshold of bronze, while bronze walls and kyanos frieze diffuse

The Doorway

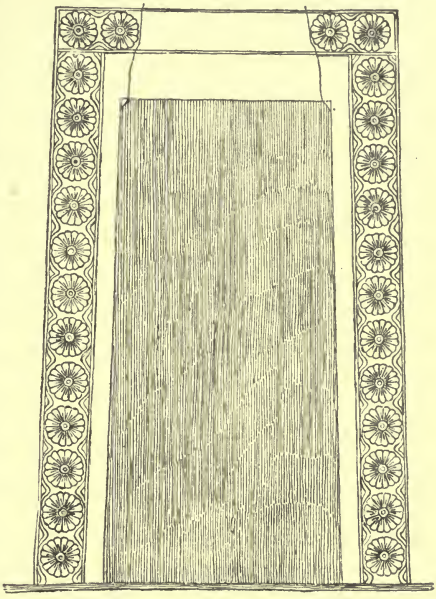


Fig. 16
Façade of Chamber Tomb (Mycenae)

[1] A faithful reproduction of this façade may be seen in the Mycenaean room of the National Museum at Athens. There the inner faces of the two doors are painted in exact imitation of the tomb in all points except the moulding over the lintel, which is conjecturally restored. The walls and ceiling also are covered with polychrome decorations, copied from wall-paintings and other works of the Mycenaean age. Thus the present repository of the treasures of Mycenae at the same time affords a fair general idea of the wealth of form and color which the decorative art of that age had at command.

a radiance as of sun or moon through the high-roofed hall.[1] Hardly less resplendent is the lofty palace of renowned Menelaus, — where Telemachus bids his comrade "mark the flashing of bronze through the echoing halls, and the flashing of gold and of amber and of silver and of ivory."[2] Now that we have abundant and unexpected evidence in the remains of Mycenae of an art to back up the sober veracity of the poet even when he seems to be giving his fancy full play (as in the Shield of Achilles), we can hardly doubt that these splendid palace pictures had some real basis. They warrant the inference, at least, that the Homeric chiefs adorned their halls here and there with these rare and lustrous substances. And the inference is raised to certainty when we find the like decoration already employed in the beehive tombs of the far earlier Mycenaean age.

In the palaces of Mycenae and Tiryns, it is true, we no longer find these metal decorations. In fact we find scarcely any metal in any form. But this only goes to show how thoroughly these royal seats were plundered before they were given to the flames. That both palaces actually perished in mighty conflagrations the spade has demonstrated beyond a doubt: for their floors were found strewn with ashes and coals, and in many places, particularly about the doorways where the construction was largely of wood, the very building-stones were reduced to lime.

The Mycenaean and Homeric Palace

These prehistoric buildings have, for the first time, afforded us a key to the comprehension of the Homeric palace. Their substantial correspondence can hardly be disputed, however this or that detail may differ. In the Homeric palace[3] the essential parts are the court, the men's hall and the women's

[1] *Odyssey*, vii. 86 ff. [2] *Odyssey*, iv. 71 ff.

[3] Cf. Percy Gardner, *Jour. Hellen. Stud.*, iii. 264.

apartments; the court is surrounded as at Tiryns by colonnades, apparently the usual resort of the prince's retainers and attendants. In this court stood the altar of Zeus Herkeios, just as we still see the altar (or sacrificial pit) in the court of the Tirynthian megaron. Doubtless, the Homeric *βωμός* is a real altar rather than a sacrificial pit, — though Odysseus finds use for the latter in the *Nekuia*, — but the difference may be accounted for (as we shall presently see) by the progress of religious belief between the Mycenaean age and that of the poems. Again we seem to have in Homer the self-same distribution of the megaron suite which we actually see in the palace of Tiryns and Mycenae, namely, the *aithousa* or vestibule, the *prodomos* or antechamber, and the *megaron* or hall proper. It is true that Homer's *aithousa* and *prodomos*, instead of denoting two distinct apartments, are ordinarily (if not always) used of one and the same, which is properly styled *aithousa* as being open to the sun, and *prodomos* from its relation to the Great Hall. On the other hand, while the great halls at Tiryns and Mycenae are distinguished by the statelier arrangement, we find the simpler single vestibule to the women's hall at Tiryns and in a private house (to be described further on) at Mycenae. More important still is the fact that in the recently discovered palace at Arne (or Gha in Lake Copais) there is no room with more than a single vestibule. Again the interior of the great hall, in Homeric times still centering in itself the life of the whole house, is pictured by the poet very much as we can actually see or reasonably restore it in these Mycenaean palaces to-day. In the actual halls we still see the great circular hearth with the four pillars about it, just as we have always known it in the vivid Homeric picture of the Phaeacian

Altar or Pit

One forehall or two

Around the hearth

palace. There the good queen Arete "sits at the hearth in the light of the fire, weaving yarn of sea-purple stain. Her chair is leaned against a pillar and her maidens sit behind her." And the king's throne tilts cosily against the same pillar, as he sits and drinks his wine like an immortal, while his Phaeacian lords occupy seats ranged against the wall from end to end of the megaron.[1] In all probability the hall floor at Mycenae, while cemented and painted in the main, was provided with the broad paved border (noted above) expressly to support the chairs ranged along the wall. Certainly anything less solid, and especially a decorated cement, would soon have been the worse for wear if heroic society was always as stirring as we find it at Ithaca.

Stone Benches

Among other correspondences not a few, we note but one more. At the foot of the great staircase at Mycenae, there are stone benches extending the length of two sides of the little court (N); and before the palace at Pylos Homer introduces us to a family council, the aged Nestor with his six sons and their guest Telemachus gathered about him, "before the lofty doors, upon the smooth stones, — white, glistening with polish."[2] Not only do the stone benches of Mycenae restore one more feature to the real world behind the Homeric transcript, but they serve to elucidate an obscurity in the poet's language. Hitherto we have been asked to believe that Nestor's smooth stones were polished by rubbing them with oil; the evidence of these actual marble benches, as of the hewn-stone antae at Tiryns, goes to show that this polish (ἄλειφαρ) was simply a fine lime-dressing or whitewash.[3]

[1] *Odyssey*, v. 305.

[2] ἀποστίλβοντες ἀλείφατος. — *Od.* iii. 406 f. Cf. viii. 6, and *Iliad*, xviii. 563.

[3] Cf. Helbig, *Das Hom. Epos*, p. 98.

With all these correspondences, it cannot be denied that there are differences as well. And if the poet is to be held to the responsibility of the architect, the difficulties are serious. It would, indeed, be a task to adapt the Tirynthian palace to the action of the domestic drama at Ithaca; but some of the impossibilities insisted upon have already been resolved by the spade as others may yet be. For example, there is the incident with which the twentieth Odyssey opens. Odysseus in his beggar's disguise has stretched himself for the night on a rough shakedown in the *prodomos* of his own palace where he lies worrying and wakeful. Lying there, his ire is stirred yet more as he sees the wanton women of his household stealing forth from their quarters to meet the suitors. Now at Tiryns, where there is no direct communication yet made out between the men's and women's quarters, this incident would appear impossible. But not so at Mycenae. There we find a door in the north wall of the vestibule leading directly to the women's apartments. Thus in the actual palace of Mycenae, as well as in the ideal one at Ithaca, an Odysseus, lying wakeful with his tormenting thoughts, would be right in the track of the guilty women.[1]

Apparent differences in plan

Communication between men's and women's quarters

But there is a more serious difficulty about the women's quarter. In the Homeric poems, as in historical Athens, the women usually occupy an upper story (ὑπερῷον), while at Tiryns their apartments, as well as the men's, are on the ground-floor. At Mycenae, indeed,

The Hyperöon

[1] For the strongest argument against the essential correspondence of the Tirynthian with the Homeric palace, see Jebb, *Journal of Hellenic Studies*, vii. 170, and *Introd. to Homer*, pp. 175–186. On the other hand, Leaf (Introd. to Schuchhardt-Sellers' *Schliemann's Excavations*, xxxi.) holds that "the plan of the Tirynthian palace admits of being converted into that of a Homeric house by the simple expedient of driving a door through the back of the megaron."

they are on a higher level than the men's, but this is due simply to the nature of the ground. Still in the Mycenae palace we find a staircase leading to a second story or terrace, and even the private houses at Mycenae (as we shall presently see) sometimes have an upper story.

Unity with diversity

Hence we are not to assume any radical difference in plan and structure between the prehistoric and the Homeric palace; at most, the latter has undergone modifications to adapt it to the requirements of a later age. Moreover, it goes without saying that, as the palaces of the Argolid do not correspond in every detail, and the palace at Gha differs widely from both of these, so neither were the Homeric palaces built according to one fixed and invariable type. The nature of the site, the circumstances of the individual prince, and other considerations without number would control the architect. Planning for a Priam with fifty sons and a dozen daughters, most of them wedded and biding at home,[1] he would take one line; building for an Odysseus, in a long lineage of only sons,[2] he would take quite another. So the sharp hill of Aetos would determine one ground plan, the leveled terrace of Tiryns another, the island-rock of Gha still another. With such allowances, it is safe to say that the student of Homer may justly conceive the palaces of Alcinous, Menelaus and Odysseus as measurably realized in the actual palaces whose foundations we have uncovered.

[1] *Iliad*, vi. 243.

[2] *Odyssey*, xvi. 117 f.

CHAPTER IV

THE PRIVATE HOUSE AND DOMESTIC LIFE

We have now to pass from the stately halls of the heroic Basileus to the dwellings of his people.

About the palace which crowned the castle steep, at Mycenae at least, there was room left for the Chief's immediate retainers — for the royal household in the wider sense; and of these abodes not a few may now be studied in their ruins. Of first importance among them is a house adjoining the polygonal tower in the south-west wall (G). Like the palaces, this dwelling has two distinct parts. The first part is made up of court, porch and hall; the second, of three underground chambers, above which there seems to have been a second floor for the women. The two sections have a common outer court, from which a wooden staircase communicated with the basement rooms. In the middle of the hall there is a square hearth, but there are no inside pillars and no ante-chamber as distinguished from the vestibule. In other respects the construction is that of the palaces: walls of rubble masonry, coated with clay mortar and then with lime plaster and finally frescoed; sandstone bases for the wooden jambs; concrete floors in court and hall, and so on. Obviously, then, the house is not only contemporary with the palaces, — we have already noted (p. 27) that it is far more ancient than the polygonal tower, — but it must have been the residence of an important personage.

Private house on Palace plan

Of the other private houses inside the fortress, some are of very shabby construction, others fairly well built. From the nature of the case, however, we cannot safely judge the abodes of the people from these dwellings upon the acropolis, which must have been occupied mainly by masters and menials. Still it is a noteworthy fact that we find many two-story houses — some of them entirely above ground, others with an underground basement. But as the lower story is often without either door or window, it would seem that only the upper floor was used as a dwelling. This second-story habitation would be entered directly from the street or reached by an outer stairway according as the first floor was under or above ground.[1] The lower rooms of these houses have no other flooring than the earth, and in clearing them out the deeper layers of débris were found to be thickly strewn not only with potsherds, but also with the bones of various animals. It would seem from this that these upper-story people were not over-nice at table, and habitually flung their leavings downstairs or through chinks in the floor. However, we need not be shocked at this, considering the table manners we sometimes meet with in Homeric society. The noble wooers of Penelope are no more refined in their feeding. Not only do we see them flinging the bare bones on the floor, but there lie the hoofs of beeves ready to hand when a missile is wanted, and the bloody hides for non-combatants to

Two-story Houses

Achaean housekeeping

[1] So at Athens, we are told, many of the most ancient houses, whose foundations we still see hewn in the rocks on and about the Pnyx, consisted of ground-floor chambers without doors, and of upper stories accessible directly from the street. This singular arrangement is to be explained, we believe, only as a reminiscence of a still more primitive age and a widely different mode of life, namely, that of lake-dwellers. But the discussion of the subject must be postponed to a later chapter.

shield themselves withal, not to mention other matters scarcely befitting a royal banquet-hall. Here at Mycenae we can turn this untidy habit to account in drawing up the old Achaean bill-of-fare. Thus, at least, we can make out their favorite meats and somewhat of their sea-food. We find bones of the swine, goat, sheep, ox, deer, hare. From the sea, there are shells of mussels and other mollusks, but never fish-bones.[1] The list might doubtless be lengthened if the bones were examined by a specialist, which has not yet been done. It may be safely asserted, however, that the bones of swine exceed in quantity those of any other animal, and only those of the goat and sheep together equal them. Hence we may conclude that the mountains round Mycenae were in early times clothed with dense oak-forests affording covert and feeding-ground for herds of wild boar; and in their glades we may imagine many a glorious hunt like that upon Parnassus which cost Odysseus his tell-tale scar. Indeed these now naked hills with proper protection would still produce the prinos and wild olive in abundance.[2] Withal there are found now and then bones of other animals — of the dog certainly, apparently also of the horse and ass — the presence of which can hardly be accounted for on the food theory.

Mycenaean dietary

[1] We have other data for the dietary, as food seems to have been deposited in the tomb with the dead. Thus in the first sepulchre (Grave II.), Dr. Schliemann found a large quantity of oyster-shells, and among them several unopened oysters. — *Mycenae*, p. 332.

[2] The destruction of forests in Greece, especially by careless shepherds' fires, is an ever recurring national calamity. Often have we witnessed these mountain fires, and we have even seen the whole Attic Plain down to the sea shrouded with the smoke of burning pine woods on Pentelicus and Parnes. When the forests in sight of the capital are thus exposed to the torch of this modern Fury it is no wonder the tree has a poor chance for its life in the country at large.

The upper floors of these dwellings were constructed very much like the palace roof already described — probably, in the simplest way, by laying slender sapling trunks from wall to wall and so close together as to leave little or no space between them. The ends of such trunks we have found represented by the discs on the capital in the relief above the Lions' Gate, as well as in the decorated doorway of a chamber tomb and on the façade of the tomb of Clytemnestra. Of the roofing of the private house we have no positive knowledge; but we may infer that the pitched roof was in prevailing (if not invariable) use. On the one hand the excavations have brought to light nothing which goes to establish a flat or terrace roof for these abodes, while at Thera a chamber was found with the sloping rafters of a conical roof still in place. And we have the further testimony of the rock-hewn tombs, which are undoubtedly modeled upon the habitations of the living, and which in the great majority of cases have the gable or hip-roof. The fair inference is that this was the prevailing style for private houses in the Mycenaean age. The roof-frame was of wooden rafters, doubtless covered with thatch, as neither tiles nor slabs suitable for the purpose have been thus far found. This pitched roof in popular use, as we infer, must have been the national Mycenaean type, while the flat roof was a borrowed form confined to the palaces of the rich and powerful, who, as we may reasonably assume, would be the first to introduce and apply such an innovation. The flat roof, adapted as it is to warm and dry climates, was always in use in the Orient, and from that quarter undoubtedly it was introduced into Greece. In the Homeric age the two modes of roofing are still equally common, but in the fifth century B. C. flat roofs obtain almost without exception at Athens, and the gable roof is reserved for the

Pitched Roofs

temples of the gods alone. The fact that the flat roof is unheard of in temple architecture shows clearly that the Hellenes looked upon the gable roof as an inheritance from their forefathers with an ethnic and sacred character. It is doubtless the same feeling which controls the type of those rock-hewn tombs, which the Mycenaeans fashioned after the pattern of their dwellings, and in which the flat roof is never found. That the flat roof came gradually to prevail, in private houses, as at Athens, was largely due to the growth of cities, whose inhabitants, shut up in contracted quarters, would need cool living-rooms by day and airy sleeping-places by night. Both of these desiderata were satisfied by the deep, flat roofs through which the sun's rays could hardly penetrate the dwelling, and which would be delightful dormitories of a summer's night, as the Greeks who still sleep upon their terraces can testify.[1]

On the other hand the pitched roof is a necessity of more northern climes with abundant snow and rain fall. In Greece, with a situation between north and east, both systems can and do coëxist. But the fact attested by the rock-tombs, that the pitched roof is the more primitive and the prevalent one in Mycenaean times, warrants the conclusion that the settlers and builders of Mycenae came into Peloponnesus from the farther North.

Of the interior furnishing of the Mycenaean house our knowledge is limited; but we know that it included tables, round as well as square, and easy chairs with semicircular backs. Sometimes, however, in place of mov-

Furniture

[1] A good Homeric habit. So in the *Odyssey* (x. 552 ff.), Elpenor goes to sleep on Circe's housetop — "very fain of the cool air, as one heavy with wine." Rudely roused by the bustle of his departing comrades, "he leaped up of a sudden and minded him not to descend again by the way of the tall ladder, but fell right down from the roof," and, of course, broke his neck.

able seats, low benches would appear to have been built along the wall. These were doubtless cushioned with rugs or skins. Such benches, resembling the Turkish divan, are still to be seen in a room of the women's quarter in the Mycenae palace; and a very similar arrangement is in use in parts of Greece to this day. While we find no examples of other furnishings, there can of course be no doubt that the house was provided with chests, couches and the like.

Fig. 17. Copper Jug

Domestic utensils

We have a better knowledge of the vessels and utensils of daily use, and particularly of the costlier articles designed for state occasions. For these, being made of more durable materials and not easily injured by time, are often found in perfect preservation. The metals employed in their manufacture are gold, silver, copper, bronze, and lead.

Of Metal

While iron was known,[1] at least toward the end of the Mycenaean age, it was so rare as to be used only for ornaments. In fact, it has been found only four or five times with proper Mycenaean objects, and always in the form of rings. Of the other metals, lead was

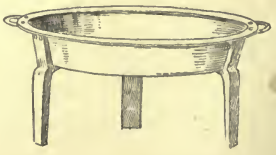


Fig. 18. Bronze Tripod

[1] See Jevons, *Journal of Hellenic Studies*, xiii. 25.

doubtless the cheapest, for we find great leaden jars as much as three feet high, used mainly for storing grain. Notwith-

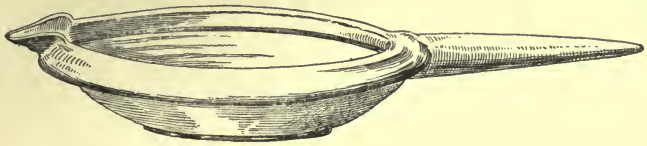


Fig. 19. Skillet (from Vaphio)

standing its cheapness, lead was not a metal adapted to many purposes. Instead, use was made of copper, either pure or alloyed with some ten per cent of tin to form bronze. Bronze is much the harder of the two, and could in fact serve nearly all the uses of iron, so that it was employed far more freely than copper. Of copper, a single one of the Royal Tombs (Grave IV.) at Mycenae yielded 34 large jugs and caldrons — one of the latter 2 feet 6 inches in diameter. The copper jug (Fig. 17) is 20 inches high and 16 inches in diameter, and has two handles; and six more of the same pattern were found in the same tomb.

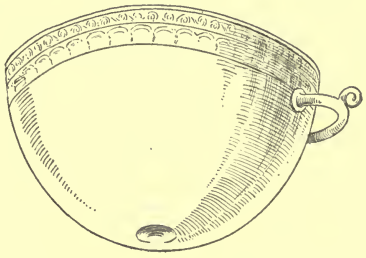


Fig. 20. Bronze Bowl
(H. .085 m., diam. .016)

Fig. 21. Bronze Pitcher

Of bronze the Mycenaeans made all their tools and cutlery, as well as vessels and utensils of various kinds, tripods, bowls,

pitchers and cups, ladles, spoons, etc. Fine examples are the bronze bowl, with graceful handle, and two bands of spirals around the rim (Fig. 20), and the still more elegant pitcher (Fig. 21), from a tomb in the lower town at Mycenae. It is made in two pieces and fastened together by a hoop of bronze, bearing seven ox heads in relief, while similar heads are graven on the handle.

Fig. 22. Ladle (Vaphio)

Of the two precious metals, gold and silver, were wrought, of course, only smaller vessels, as cups, bowls, and flagons (*oenochoae*) for display at sacrifices and banquets. Of these we shall give illustrations in later chapters.

Fig. 23 Spoon (Vaphio)

Of Stone

Along with the metals we find stone still used for spoons, cups, jars, and a variety of small vessels — usually oval or bowl-shaped. Sometimes a dark vein in the marble is utilized to give a band of color, but as a rule the surface is either perfectly plain or varied with incised lines. Often they have no handles, but merely small holes about the rim for fastening on the lid. Others have two or three ears pierced for a cord: thus they could be hung up in the house or swung from a pole for convenience of carriage.[1]

[1] So some of Mr. Evans' primitive seal-stones might suggest (*Journal of Hellenic Studies*, xiv. p. 337 ff.). On one of these we see a shepherd bearing on his shoulder a pole from which are suspended what appear to be four skin buckets, no doubt intended to contain milk — exactly after the fashion of the shepherd in Argolis to-day, except that the latter usually substitutes woolen bags for skin buckets in marketing his curds and whey. Such "suspension

But we find also larger stone vessels, twenty inches or more in height, and great bowls decorated with spiral reliefs or other ornaments. Of all these vessels the finest is the octopus vase from Mycenae (Fig. 24). The vase proper is of a greenish quartz, while the lid inclines to gray; the form is very elegant; and the rendering of the polyp relief is true to nature. About a dozen minute holes in the bottom go to show that the vase may have served as a filter. Among the alabaster vessels, of which we have recovered not a few examples, the most elegant is a three-handled vase from Grave IV. (Fig. 25), which, as Schuchhardt says, "from its shape and technique might come straight from a modern drawing-room."

Fig. 24. Stone Vase with lid, from Mycenae
Diameter 18 in.

Fig. 25. Alabaster Vase from Grave IV.

But, after all, the staple of Mycenaean house-furnishing was earthenware, and the pottery which has come to light in the excavations of Mycenae and Tiryns alone would fill

vases," but of terra-cotta, Schliemann found in great numbers at Troy, usually having "on each side two long vertical tubular holes for suspension by a string." In one case there were found in the hole remnants of the twisted linen cord by which the vase had hung. See *Ilios*, pp. 215–217 and passim.

a museum. This earthenware included not only the common vessels, such as bath-tubs, jars, pots, pans and the like, but also (so far as they were not of metal) all the finer table-ware which nowadays is of glass, — namely, goblets, pitchers and other vessels of most varied form and use. Of these the kitchen utensils and the like are quite simple and destitute of decoration, but the jars (πίθοι) often show incised rosettes and even raised bands, due, no doubt, to the fact that these receptacles not infrequently stood in the courts or even in the living-rooms, where visitors would see them.[1] In Fig. 26, we reproduce one of a dozen such jars found in the ruins of the prehistoric palace at Knossos in Crete. It is of a dark brown clay, $3\frac{1}{2}$ feet high, and $2\frac{3}{4}$ in diameter, with walls about an inch thick; but it is chiefly remarkable for its decoration of bands in relief (like the hoops of a cask) and wave-lines between them, and its two sets of handles round the top and bottom.[2] Of other utensils for the table and like uses, the surface as a rule was simply smoothed with a stone polisher or else prepared with a thin coating of black, white or reddish varnish, over

Pottery

Fig. 26. Cretan Pithos

[1] Along the northern wall of the megaron at Tiryns, twelve circles were visible in the floor marking the positions (as Dr. Dörpfeld thinks) of a row of these pithoi. — *Tiryns*, p. 340 f. In the Burnt City on Hissarlik, Dr. Schliemann found over 600 pithoi — some as much as 8 feet high, and 5 feet in diameter. Six of these, *in situ*, are represented in his *Ilios*, Fig. 8. Still finer magazines of these pithoi have been unearthed by Dörpfeld in the Mycenaean Troy.

[2] Cf. E. Fabricius, *Ath. Mitth.*, xi. 135 f.

which were traced various designs in simple colors (Figs. 27, 28). But the subject of vase-painting must be reserved for a later chapter.

Fig. 27. Glazed Vase (Grave IV.)

Glass in the strict sense of the term was apparently unknown to the Mycenaean world, but a substance resembling it was largely used. This is an opaque glass paste colored with copper ore and employed mainly in moulding trinkets, which are found by the hundred at Mycenae and Spata. Occasionally goblets were made of it, but of these no example has been found unbroken. From fragments we can make out that they were in some cases at least not unlike the pattern in common use to-day. These fragments are white, blue or greenish, — the last-named tint being probably only a modification under the action of time and weather of the original *kyanos*, — and they are decorated with spirals and the like in black, chestnut, or yellow.[1]

Glass Paste —Kyanos.

There remain to be mentioned implements of two other materials, namely, wood and ivory. It goes without saying that many of the commoner as well as of the costlier utensils were of wood, but in the nature of things nearly all of these have perished — a box or two excepted.[2] We find also two or three ivory boxes — one of

Wood and Ivory

[1] See Schliemann's *Mycenae*, xliii. ff., and for examples of the stone moulds used in casting glass trinkets, *ib.*, pp. 107–109.

[2] In Grave V., Schliemann's First Sepulchre, he picked up two sides of a small quadrangular wooden box, on each of which are carved in relief a lion and a dog. "Small as these sculptures are, they are still of capital interest, because they prove that the art of carving in wood flourished in the heroic age." — *Mycenae*, p. 332.

them with a lid, — with figures of animals, griffins, and men in relief. Ivory played a more important part, however, as a decorative medium for fabrics of other material. It was the fashion, namely, in the Mycenaean as well as in the Homeric age, and still later, to enrich furniture and other fabrics of wood with ivory trimmings. The tombs have yielded up numerous examples in the form of bands, pillars, plaques, disks, buttons and the like, most of which were undoubtedly once inlaid, riveted, or otherwise fastened on articles of wood. The bands and plaques bear animal and human figures, usually in relief, occasionally in intaglio.

Fig. 28. Unglazed Vase (Grave VI.)

The Lamp

One article of prime importance we have not yet mentioned — namely, the lamp. It has been reserved to the last because its discussion involves the whole question of lighting the Mycenaean house. Of windows proper, even in the palaces of the period, we have said nothing, because there is nothing definite to say. Of their existence no proof is yet forthcoming. By day the halls could be lighted fairly well from the open door and the lantern roof. Rooms without such lanterns, whether in palace or hovel, may have been provided with slits in the wall to admit the sunlight. These rooms, however, would be but dimly lighted in winter, when the weather forbade open doors. There was, of course, the firelight on the hearth, as in the peasants' huts to-day, where the wooden shutter still does duty in lieu of window glass, and to this would be added by night the smoking torch and cresset.

It is hard to believe now that the hearth and the torch afforded the only means of lighting known to the Mycenaeans, — that it never occurred to them to put to this use the fat of the animals which they slaughtered for their daily food. Nor was olive oil unknown, however rare it may still have been, in Greece. Olive kernels have been found both at Mycenae and at Tiryns; and, moreover, the wild olive is native to Greece and often bears abundant fruit, from which good oil could certainly be extracted. At the same period oil was abundant in Syria; and at Thera, in the ruins of houses far more ancient than the Mycenaean, along with most primitive pottery, was found a stone apparatus which is taken for an oil-press. Oil, then, could not have been unknown, however little used. And the Mycenaeans kept swine in great plenty, as well as other domestic animals whose fat is found in use for lighting among people of far lower civilization. It is the more surprising, then, to find in the Homeric poems no mention of either oil or fat in this use, but solely of torches and firepans.[1] That the Ionians, down to the close of the Homeric age, were without any other lighting, is incredible.

We are now (1895) in a position to maintain that the Mycenaeans were not strangers to lamplight and that we have actually found lamps in one of their chamber tombs. One of these is here reproduced from photographs, both in a side view and as seen from above (Figs. 29, 30). It is of stone (an ash-blue

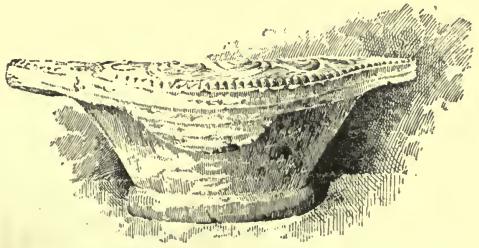


Fig. 29. Stone Lamp

[1] δαῖδες and λαμπτῆρες, as in *Odyssey*, xviii. 307 ff.

schist); measures 8 inches long and 3 high, though it is hollowed only three fifths of an inch deep; and has two mouths, and a square incision underneath, showing that it was to be placed upon a standard. The graceful spiral pattern carved upon the lips lends the little vessel an air of distinction. Other like stone vessels have been found — all very shallow, with two handles, usually with two spouts, in one case with four. Three of them are mounted on a standard some 20 inches high (Fig. 31).

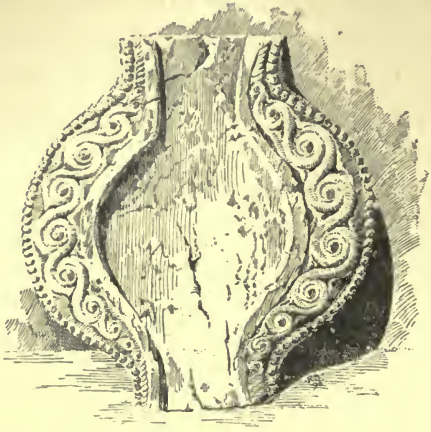


Fig. 30. Bowl of same Lamp

The general form, the shallowness of the bowl, the number of mouths, the height of the standard, and the peculiar handles go to show that they were neither ordinary receptacles nor torch-holders. We take them for lamps, in which oil or fat (more probably the latter) was burnt, thus affording a steadier and safer light than the fitful fire or the flickering torch.

Fig. 31. Standard Lamp

If we now sum up the results of this and the foregoing chapter and reproduce in imagination a Mycenaean palace our impression of it must be in many respects a brilliant one. There is the Great Hall, with the pillars upholding the roof and inclosing the great round hearth with its rich poly-

chrome designs; the smooth concrete floors, scratched in checkers of red and blue; the walls frescoed in bands, now of animals or linear designs, now of hunting or battle scenes, and crowned with richly carved friezes, while the doorways and the woodwork generally are agleam with noble bronze. Then, answering to all this variety, the furnishings — among them easy chairs decked out, it may be, with gold, silver, bronze and ivory, and doubtless spread with rugs or skins; vessels in endless variety of form and stuff — terra cotta, kyanos, alabaster, bronze, silver and gold, some of them, like the golden cups from Vaphio, wrought with designs of wondrous life and beauty. Certainly in all this we have a high-water mark of comfort and luxury, of wealth and taste.

But the picture has its shadows, which would no doubt be deepened if we could look into the huts of the common herd. Even the palace is without a chimney or a window, and the refinement of the age, as we have seen, was far from exemplary. Prince and peasant in a rude age do not differ much in manners; and the lower-class coarseness which we infer from the housekeeping still in evidence at Mycenae is more than matched by the lordly suitors of Penelope. But the Ithacan scene is abnormal: it is a scene of license and riot in a state of social anarchy — a picture of society saved from dissolution solely by one woman's high heroic faith. This is not the type of woman, indeed, which the poets have set upon these Argive thrones. Clytemnestra we know too well, but oblivion has been kinder to Anteia, the Lycian queen of Proitos, setting her snares for virtuous young Bellerophon. It is easy to forget that this prehistoric intrigue is a tale of Tiryns — whether we refer it to the present palace or an earlier one — and that we owe to the false Anteia the only letter in Homer, "the baleful signs scratched within a folded tablet," which poor

Bellerophon carried as his own death-warrant from king Proitos of Tiryns to that king's father-in-law in Lycia.

Still we like to think of these princely halls as associated with princely manners. And if the ages could roll back and give us one glimpse of Mycenaean life in its bloom, we should hope to find in these halls a society in keeping with the legacy it has left us — men and women moving in that atmosphere of radiant yet simple dignity with which Homer has invested Arete's household and exemplifying the grand sweet courtesy which high-born Helen seems to breathe through the Halls of Menelaus.

PLATE X. MYCENAE: ROYAL CEMETERY AND LIONS' GATE, FROM WITHIN

From a photograph by Professor Colwell

CHAPTER V

THE DWELLINGS OF THE DEAD: SHAFT-GRAVES

From the abodes of the living, we turn directly to a study of the tombs. This order is suggested, as we trust it will appear warranted, by two considerations. In the first place, we thus bring into proper relation and connected view all the great branches of architecture, military, domestic, and sepulchral, of which the age has left us monuments. Indeed, such is the close relation of the primitive house and tomb that neither can be well studied apart from the other. In the second place, it is the tombs which have yielded our chief data for the further study of the age; and it is of great practical convenience to look on, as it were, at the unearthing of these precious relics, before taking them up as documents for the history of primitive culture.

The Mycenaean tombs are of two general types. The first is that of the oblong pit sunk vertically in the ground, very much like the modern grave; the second includes the beehive or tholos-structure and the rock-hewn chamber, approached alike by an avenue (*dromos*) cut horizontally into a hillside. It is the second which offers the great monuments of sepulchral architecture; but the shaft-graves are obviously earlier in origin, as they were the first and are still the foremost in their contribution to our knowledge of the age to which they belong. They are, therefore, entitled to the first consideration.

Two types of tomb

If the visitor to Mycenae enter the citadel by the Lions' Gate, and turn to the south, twenty paces more will bring him to the entrance of a unique circular inclosure. It is 87 feet in diameter and fenced in by a double row of limestone slabs set vertically in two concentric rings. These rings are about three feet apart, and the space between them was originally filled in with

The Royal Cemetery at Mycenae

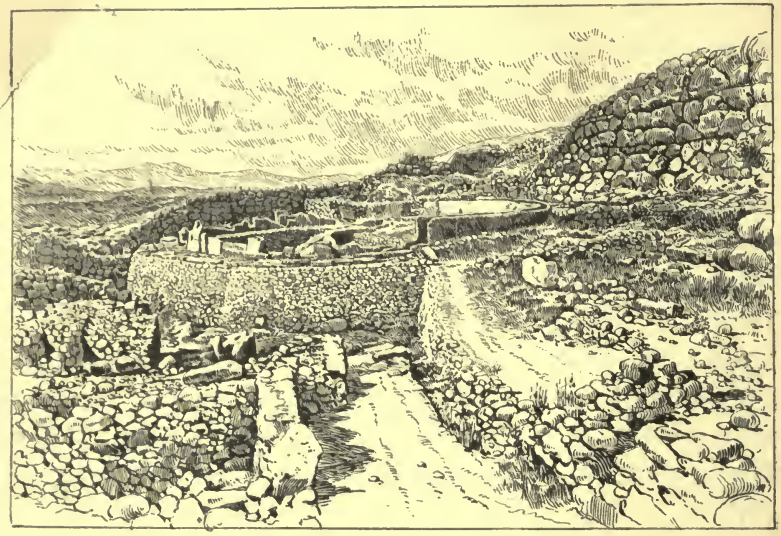


Fig. 32. The Grave Circle at Mycenae

small stones and earth, and then covered with cross-slabs of the same kind with the uprights, six of which were found in place.[1] The result is a wall some $4\frac{1}{2}$ feet thick and 3 to 5 feet high, the variation being due to the slope of the rock from east to west.

[1] These covering slabs (according to Schliemann) "are firmly fitted in and consolidated by means of notches, forming a mortise and tenon joint" (*Mycenae*, p. 124); but Belger has recently undertaken to show that the notches were for wooden beams, as in the covering of the graves. — *Jahrb.*, 1895, p. 114 f.

For this curious ring-wall does not inclose a level space. On the contrary, the ground falls off so abruptly that on the west a Cyclopean retaining wall over 18 feet high (at the maximum) had to be built for the support of the terrace, and even this wall is still two feet below the level of the native rock in the eastern part of the inclosure. Thus to bring the ring-wall to a uniform level, the upright slabs on the Cyclopean foundation are as much as five feet high, while on the living rock they are only three. Entering this inclosure by the open passage, about six feet wide, — there is no trace of a door, — we see hewn in the western slope of the rock, at different levels, six graves of varying size.

Such is the aspect of the Royal Necropolis of Mycenae to-day, but it was very different when Dr. Schliemann put in the spade twenty years ago. Then the area, including the circle, was buried under the deepest mound to be seen on the citadel — a mound rising 9 to 10 feet above the top of the ring-wall and 12 to 13 feet above the highest level of the rock, while the bottom of some of the graves lay as much as 33 feet below the surface. Naturally, it was the ring of slabs which first came to light, and Dr. Schliemann at once thought he had uncovered the agora of Agamemnon and his counsellors — a notion not without a very plausible show of reason in the Greek writers,[1] and espoused at first by an archaeologist so sober and well-trained as C. T. Newton. Even the discovery of the tombstones and then of the tombs themselves, filled with skeletons and offerings, did not shake Schliemann's faith, in view of Pausanias' statement that at Megara the sepulchre of the heroes was within the council-house (*βουλευτήριον*), which would naturally be in the agora. But the "bench of the agora," — namely, the ring-wall with its covering of

as Dr. Schliemann found it

[1] See *Mycenae*, pp. 125–132.

slabs, — while it might have offered comfortable sittings to the Cyclopes who fenced the citadel, could hardly have answered for men of ordinary, even heroic stature.

Reserving for the present the further discussion of the character of this precinct, let us follow the explorer as he

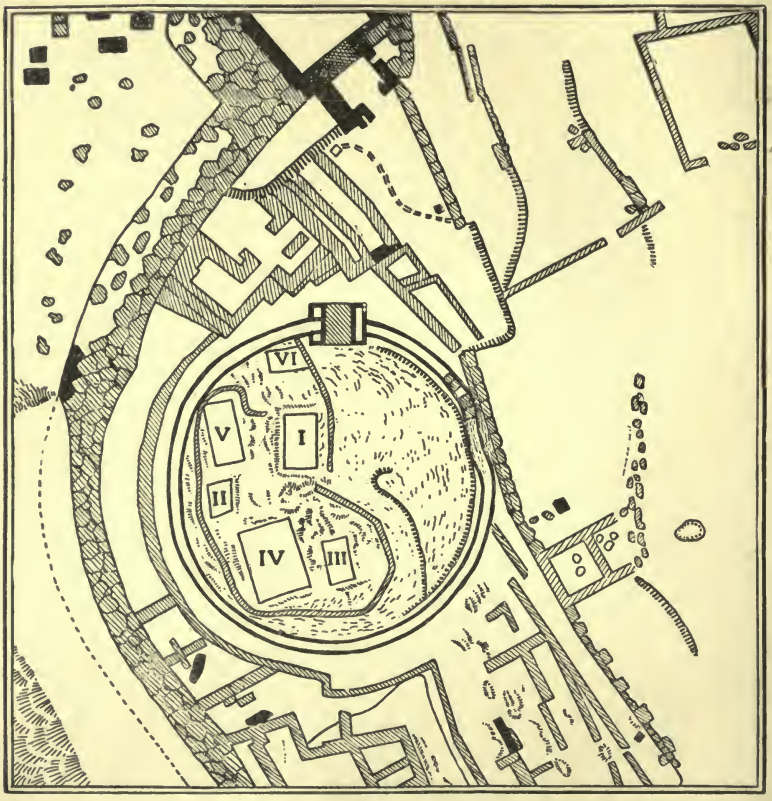


Fig. 33. Plan of the Grave Circle

breaks into this charnel-house of the Heroic Age. The mound itself has yielded quantities of the now familiar Mycenaean pottery with terra-cotta idols, bronze knives, stone implements and the like before the spade strikes the first sure indices of the real nature of the place. These

are the tombstones, some of them sculptured with scenes from life — heroes in their chariots engaged in war or the chase, — one of which we shall presently reproduce and describe.

A typical women's grave

At a depth of $7\frac{1}{2}$ feet below two of these stelae, and 21 feet below the surface of the mound, Dr. Schliemann came upon "a number of skeletons of men lying on the slope of the rock," — doubtless, as we shall see, slaves or captives immolated at the funeral of their lord, — and 9 feet deeper still (i. e., 30 feet from the surface) he found the sepulchre known as Grave III.[1] It measures 16 feet 8 inches by 10 feet 2 inches in length and breadth, but such is the irregularity of the rock surface that the depth on each side varies — from $2\frac{1}{3}$ feet (west) and $3\frac{1}{3}$ feet (south) to 5 feet on the north and 7 on the east. The tomb is lined with a slanting schist wall, 5 feet high and $2\frac{1}{4}$ feet broad. In this tomb Dr. Schliemann "found the mortal remains of three persons who, to judge by the smallness of the bones, and particularly of the teeth, and by the masses of female ornaments, must have been women;" and there are indications that two children were buried with them. The bodies lay three feet apart on a bed of pebbles, and were "literally laden with jewels." To these offerings the explorer devotes forty-five pages of his "Mycenae," enumerating and describing them much in the order in which they came to light. We shall attempt here so to classify them as to suggest at least a picture of the dead with all their funeral trappings in place.

[1] See Plan, which is a section of the large-scale map in Steffen's *Karten von Mykenai*. The graves are numbered in the order followed in the Museum at Athens and in the recent literature of the subject, but differing from Dr. Schliemann's. Graves III., IV. and VI. are the same as Schliemann's, while

Grave I. = Schliemann's II.
Grave II. = " V.
Grave V. = " I.

To begin with the objects in gold: there were 6 diadems, among them the splendid gold crown with the flower-crest (Plate XII.), which still encircled the head of one of the women; a gold comb with bone teeth; the ornate gold-headed hairpin (Fig. 67); 6 gold spirals for the hair; 15 gold pendants; 11 gold necklace-coils; 6 gold bracelets; 8 gold crosses and stars; 10 gold grasshoppers hung from gold chains; 1 gold butterfly; 4 gold griffins — one flying; 4 gold lions couchant; 12 gold ornaments, each with two stags reposing upon branches of a date palm; 10 ornaments with lions — one with two lions attacking an ox; 3 gold *intaglios* with vigorous figure-subjects (Figs. 73–75); 51 gold ornaments embossed with cuttlefish, butterflies, swans, eagles, hippocampi and sphinxes; 4 female idols in gold, including two of Aphrodite with doves; 18 gold wheels and tubes; 2 pairs of gold scales; 1 gold mask of child; 1 gold goblet embossed with fishes swimming; 5 gold vases with lids; and, finally, 701 "large, thick, round, plates of gold, with a very pretty decoration of *repoussé* work in fourteen different designs — spirals, flowers, cuttlefish, butterflies, etc." In addition to this profusion of gold, there were 4 silver vases and goblets, 2 silver rods plated with gold; a magnificent alabaster vase and cup; 1 bronze vase and 3 large bronze caldrons; several engraved gems; and "an enormous quantity of amber beads." Such is a rapid inventory of the funeral outfit of these Mycenaean ladies, in which Dr. Schliemann enumerates 870 objects in gold alone (illustrated by 86 figures), not including "many small gold ornaments," "a large quantity" of gold beads, and "another large quantity of small pieces of very thin beaten gold with which the whole tomb was strewn."

with its offerings

Leaving for the present all comment on this funeral

furniture, we proceed to a like rapid survey of one of the graves occupied by men as well as women. Less than five feet from Grave III., on the west, "at a depth of 26 feet below the former surface of the mound (says Dr. Schliemann) I struck an almost circular mass of masonry, with a large round opening in the form of a well; it was 4 feet high and measured 7 feet from north to south and $5\frac{1}{4}$ from east to west. I at once recognized in this curious monument a primitive altar for funeral rites, and was strengthened in this belief by two slabs in the form of tombstones which lay in a horizontal position below the altar and which must have once been erected on the spot to mark the site of the sepulchre." At a depth of $26\frac{1}{2}$ feet (or about 3 feet directly beneath the foot of the altar), was found a grave 24 by $18\frac{1}{2}$ feet in length and breadth, with sides varying in depth from 6 to 10 feet, the bottom lying 33 feet below the mound surface. The tomb was lined to a height of $7\frac{2}{3}$ feet by a slanting stone wall, 4 feet wide at bottom, thus leaving an area of 16 by $10\frac{1}{2}$ feet available for interments. In this space, again on a pebble bed, lay the bodies of five persons,[1] three with heads to the east, the other two with heads to the north.

Another typical grave

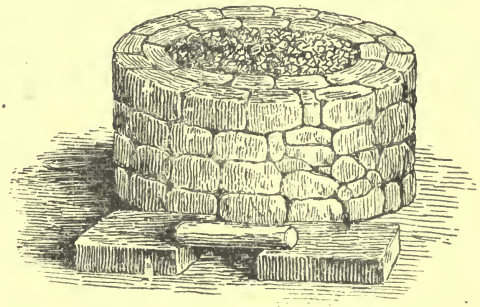


Fig. 34. Altar over Grave IV.

"The five bodies of this Fourth Tomb (says Schliemann) were literally smothered in jewels," and again his inventory,

[1] By a careful study of the offerings, Schuchhardt (p. 214 ff.) has shown that in all probability two of the five were women.

which fills over seventy pages of "Mycenae" and includes figures of 123 representative objects, goes far to justify the statement. But there was more than jewelry. Around the walls of the tomb were ranged 34 large copper jugs and caldrons — one of the latter $2\frac{1}{2}$ feet in diameter and another of them containing 100 gold-plated buttons with intaglios; and in one heap lay more than 20 bronze swords, among them the now famous blade with the lion-hunts inlaid in gold; and to these we must add hilts, pommels, and a sword-belt of gold. Three of the dead had the golden masks (Fig. 35) still on their faces, and two of the three had their breasts covered with large golden breastplates.[1] Near the head of another lay a large gold crown, and there were also two smaller diadems. There were two signet-rings, with intaglios of a chariot hunt and a battle-scene (hand to hand), and a massive gold bracelet (Fig. 76) of enormous size; and the knee-bone of one of the men was still encircled by the ornate gold clasp that had fastened on the greave. Of other golden ornaments, there were some 600, such as hairpins, ribbons, axes, rings, buttons, flowers, cuttlefish, etc.; and to complete the heroic outfit there were the dragon-pommel and part of the gold sheath of a sceptre (Fig. 63), with a second smaller sceptre-sheath; a gold lion-mask; a great silver ox-head with golden horns, and 56 little replicas of the same in gold; 3 gold models of a temple with Aphrodite's doves perching on the roof (Fig. 40); 10 splendid golden vessels, including the dove-cup (Fig. 36); and 19 silver vessels, — goblets, flagons, bowls, vases, etc. Further there were objects in alabaster, bronze, terra cotta, and by two of the dead in two heaps lay 800 amber beads varying from the size of a pea to the size of a silver dollar, while the whole sepulchre

Its offerings

[1] One of these proved to be a crested diadem. Schuchhardt, p. 217, Fig. 211.

was strewn with small gold leaves, of which more than half a pound were gathered up.

The mere inventory is enough to show the barbaric splendor which went with the Mycenaean to his tomb, but for a clear conception of ancient burial one should see the tomb itself with its tenants and their offerings about them. This every visitor to Athens may do, for in the National Museum Grave VI. (discovered by Stamatakes) has been reproduced (so to speak), and its occupants — two men — there lie outstretched on their pebble bed, with their drinking-cups at hand and their armory in reach, while great vases are ranged about their feet.

We now proceed to a general study of this Royal Cemetery and the questions raised in connection with it. And first, of the monuments.

The stelae are of soft shelly limestone (a sort of *poros* composed of countless minute shells), and so easily cut, but at the same time easily fractured. Schuchhardt has undertaken to show "that only the graves of the men were marked by sculptured slabs with reliefs representing occupations which belong exclusively to men, whilst the graves of women only received modest polished stones." This is doubtless true, though even the men's graves are not invariably distinguished in this way. At any rate, according to Stamatakes, the sixth grave, in which men were undoubtedly buried, was marked by an unsculptured slab. Beside the four sculptured stones found in place (one on Grave II. and three on Grave V.) Dr. Tsountas found a fifth at a depth of five feet near the polygonal tower; and there must have been more, for some thirty sculptured fragments have been found within and without the circle — a third of the number showing parts of figure-subjects.

The Tomb-stones

One of these stones from Grave V. is here published (Plate XI.). In subject and treatment it is typical. The space to be treated is laid off in two equal parts, one above another. The upper and larger compartment is filled in with a spiral decoration; the lower with a figure-subject, representing a man mounted upon a chariot drawn by one horse (apparently), with another man at the horse's head. Only the forward part of the chariot box with a single four-spoked wheel[1] is represented: as we must assume a second wheel, so undoubtedly we are to take the horse as standing for a span. The charioteer holds the reins in his right hand, while the left apparently rests on the hilt of a huge broadsword which tapers to a point, like a spear-head. There is nothing to show for pole or traces, the reins alone serving to establish a relation between chariot and horse. The footman seems to be grasping the horse's forelock with his right hand, while in his left he holds uplifted a curiously shaped sword — broad in the middle and tapering to both ends. This is generally interpreted as a hostile encounter (so Schliemann, Schuchhardt, Perrot); but the footman may be taken for an attendant rather than an enemy. We prefer to read the subject as a chief bound for battle or the chase, attended by his squire. In Homer we should see the latter in the chariot with his chief; but the Mycenaean sculptor was not such a master of perspective as to find room for him there or beside the chariot or horse. The spaces about the figures are filled as usual with spirals.

Another stele from this grave presents a kindred composition, but here the man in front is clearly making at the mounted man with a spear. The third stone — of which

[1] The Homeric chariot wheel has eight spokes — at least this is true of the Olympian car which Hera drives (*κύκλα χάλκεα ὀκτάκνημα*, *Iliad*, v. 723).

PLATE XI. STELE FROM GRAVE V. (1 : 12)

only the lower compartment with the figure-subject is left, and that sadly mutilated — seems to combine two distinct scenes in the same space, namely, a charioteer riding over a prostrate foe, and under this a lion chasing an ibex. These subjects are in singular harmony with the offerings in the tomb which the stelae marked — many of them distinguishing the dead as warriors and hunters: not to mention the gold breastplate and sword-belt, there are at least a dozen objects — daggers, gold goblets and gold plates — with designs relating to the chase.

The fourth stele (from Grave II.) is laid off in three vertical instead of horizontal compartments — the middle one being left plain, while the two outer ones are carved like the coils of a serpent in "a broad wave pattern" which may be regarded as the prototype of the meander.

It is clear from their technique that the tombstones are earlier than the lion-relief. In the latter the modeling of the figures is really plastic, while the figures of the stelae look as if they had been drawn on a flat board and then relieved by cutting away or sinking the adjacent surface. Thus the figures are quite flat and always lie in the same plane with the border of the slab.

The graves, as already noted, are oblong shafts sunk in the soft rock, but varying in size. The smallest (II.) measures about 9 by 10½ feet, the largest (IV.) 18½ by 24 feet, and the depth in the rock varies from 2 to 16 feet. These figures, however, do not represent their actual capacity, for all the graves but one (the second) are lined on every side with slanting stone walls, which in Grave IV. are four feet thick at bottom, thus considerably diminishing the available room. The walls are not carried all the way up, — in Grave IV., as we have seen, they are 7 feet 8 inches high, while the grave is 10 feet deep, — and they were

The Graves

doubtless intended to carry the wooden beams whereon rested the covering slabs of stone. We owe this important conclusion to the insight of Dr. Dörpfeld. Some of these covering slabs had fallen when the wooden beams rotted away and were mistaken by Dr. Schliemann for casings. But on careful inquiry Dr. Dörpfeld learned that one of these slabs had actually been found on a body, and at once "it became plain to him that the disorder in the graves was not the result of a hasty burial, but of the falling of a roof or lid formed by those slabs. The presence of the many well-preserved pieces of wood was now explained; across the grave lay one or two strong beams which carried the slabs; when the beams rotted, the lid fell in, and the greater part of the slabs just slipped down against the wall, and remained there in an erect position; but some of them also fell on the bodies. Next, the bronze casings with which the ends of the beams had been shod, were discovered in the Museum among the finds from the third grave. Each is 10 inches long, 5 inches high, and 4½ inches broad, and is filled with wood in fair preservation, which was fastened all around with a number of strong copper nails." [1] It was only in Grave III. that such casings were used.

Nineteen skeletons

In the six graves were found nineteen skeletons: namely, three in the first, one in the second, five in the third (three women and two children, apparently), five in the fourth, three in the fifth, and two in the sixth. Each lay at the bottom of the grave on a bed of small pebbles; although Stamatakes reports that in Grave VI., under this bed of pebbles, was another layer of small stones, about twenty inches deep, and Schliemann notes the same

[1] Schuchhardt's *Schliemann's Excavations*, ed. Sellers, 160 f. It was Dr. Schuchhardt himself who discovered the true office of the copper casings which Schliemann had taken to be "head pillows for the dead."

thing in Grave I. The orientation of the dead was not uniform, and the body was not (as nowadays) disposed at full length, but in a half-sitting posture, with the head resting on high pillows. More important is the evidence that the Mycenaeans knew and employed the art of embalming. Of the third body found in Grave V., Dr. Schliemann states that "the round face, with all its flesh, had been wonderfully preserved under its ponderous golden mask; there was no vestige of hair, but both eyes were perfectly visible, also the mouth, which, owing to the enormous weight that had pressed upon it, was wide open, and showed thirty-two beautiful teeth. The color of the body resembled very much that of an Egyptian mummy."[1] As the preservation of a body for 3000 years is otherwise inexplicable, Helbig[2] maintains that the dead were embalmed. This is not improbable, although we have no evidence of the fact from any other grave of this period. From the Homeric poems we know that the bodies of the chiefs lay in state for days, and even weeks, before being consigned to the tomb, and without embalming this would have been impossible.[3] Indeed, Homer has in mind some process of embalming when he tells us how "on Patroklos Thetis shed ambrosia and red nectar through his nostrils that his flesh might abide the same continually,"[4] until Achilles should slay Hector, and bury his comrade. And Aphrodite anoints Hector's body "with rose-sweet oil ambrosial," and Apollo covers it with a cloud to keep the sun from shriveling his flesh.[5] A yet more direct proof is found in the fact

Embalming

[1] *Mycenae*, p. 296 f., with figure from an oil painting made directly after the discovery.

[2] *Das Homerische Epos*, 53 ff.

[3] For example, Hector's body is not burned until the twenty-second day after death, and Achilles lies in state seventeen days. — *Odyssey*, xxiv. 63.

[4] *Iliad*, xix. 38 f.

[5] *Iliad*, xxiii. 186.

that Homer thrice employs *ταρχύειν*,[1] in the sense to *bury*, while the word is obviously only another form for the later current *ταριχεύειν* to *pickle, embalm*. Hence it is not improbable that embalming was known in the Mycenaean age, though employed simply for the preservation of the body while lying in state. This, without doubt, continued many days in the case of chiefs and princes — not so with the common people ; hence, embalming would be exceptional. And from the probable embalming of some corpses we have no warrant for concluding that the Mycenaeans held views of a future life akin to those of the Egyptians.[2]

A Family Sepulchre

The six graves obviously belonged to a single dynasty, and are not all of the same date. The third, fourth and fifth are distinctly the earlier, as we shall presently see. More than that, it is altogether improbable that the several bodies in any one grave were all buried at the same time : and in that case every grave (except the second) must have been reopened once or oftener before it received its complement of corpses. On these occasions the bones of those buried previously were often pushed aside or gathered into heaps ; at least, this seems to have been done in the sixth grave (now set up intact at the National Museum), and we shall see that it was a common occurrence in the beehive and chamber tombs.

Funeral Banquet

After the burial the grave was covered with slabs and then mounded over, and the mourners sat down to the funeral repast beside it, as may be inferred from the bones of beeves, goats, swine and deer which litter the ground — partly due to these feasts, partly also

[1] *Iliad*, vii. 85 ; xvi. 456, 674.

[2] For valuable data as to embalming in other parts of the East (Phoenicia, India, Babylonia, Scythia), as well as Greece, and in Mexico, Peru and the South Pacific, see Helbig, *l. c.*

to the victims sacrificed to the dead at the funeral and perhaps afterward. Such offerings to the dead are attested by the sacrificial pit above Grave IV., which was intended to receive the blood of the victims slaughtered over it as well as the customary libations. On no one of the other graves, indeed, was such a pit discovered, and even that just mentioned was covered by a deep mound without being replaced by another higher up. This does not prove that the worship of the dead ceased and their offerings were discontinued, — probable as it is that toward the end of the Mycenaean age ancestor-worship declined, —but merely indicates that simple pits in the surface of the ground replaced the old Cyclopean constructions.

Beside the bones of animals there were found in the tumulus human skulls and skeletons apparently thrown there pellmell. And, according to Stamatakes (in his report dated December 4, 1877), "four bodies of a later period were buried in as many different parts of the eastern side of the inclosure. Two of the graves were of the usual shape, but the others were round pits. In these graves nothing was found but the bones." These graves, which Stamatakes thought to be late, were probably as old as the Royal Tombs; indeed, pits containing bones are found also in the tholos and rock tombs, and the absence of offerings from these pits in the Grave Circle only goes to show the quality of the persons buried in them. These, as well as the skeletons of men found by Dr. Schliemann above the mouth of Grave III., must have been the bodies of slaves or captives immolated on the master's tomb.

Human Sacrifices

But postponing for the present the further discussion of the funeral repast and the immolation of victims, human and brute, we must now consider briefly the funeral offerings. These are, of course, too numerous for any detailed

description, for which the reader must go to Schliemann's own original account or to Schuchhardt's admirable condensation of it.

Here we shall confine ourselves to those of more general importance or specially characteristic and illustrative. And we may premise that these funeral furnishings included many objects of no practical utility — especially the cheap ornaments, fabricated expressly for the dead, though always

Fig. 35. Gold Mask (Grave IV.)

in imitation of things actually worn by the living. So the golden knee-caps, the armlets of gold-foil and many other gewgaws were doubtless substituted for the more substantial and serviceable articles of actual use. Later, especially in Roman times, the Greeks often buried with their dead these gold-foil ornaments, such as ear and finger rings, while the more solid and valuable jewelry actually worn by the departed in their lifetime was kept by the survivors.

Still, a great many of these Mycenaean funeral offerings were solid and substantial and had undoubtedly seen actual service.

Among offerings made expressly for the burial, the first place belongs to seven gold masks from the third, fourth and fifth tombs. Five of these in all probability covered the faces of men, while the other two from Grave III. belonged to children, whose hands and feet were likewise moulded (so to speak) in gold-leaf. These masks were undoubtedly intended to perpetuate the features of the dead, and so there is a rude attempt at real portraiture, but without any great success. So we must regard simply as funeral decorations the great gold breast-plates found upon the breasts of men in the fourth and fifth graves. Of the same character, probably, were the large golden diadems found in graves (I., III., IV.) which appear to have been occupied in whole or in part by women.

Gold Masks

Breastplates and Diadems

To men, of course, belonged the various weapons — swords, daggers, spear and arrow heads. Most of the swords were found in the fourth and fifth graves, and there can be no doubt that these were made not merely to deck the bier and the tomb of the dead, but for actual service in life. Their solidity proves this. So of the great copper vessels, particularly the numerous caldrons. As late as the Homeric period, these together with sheep and oxen served as the current medium of exchange, and Agamemnon[1] tenders Achilles as part of his peace-offering twenty shining caldrons. They were placed in the grave as a form of stored wealth, perhaps without the special meaning which apparently attached to the gold and silver

Weapons

Caldrons

Goblets

[1] *Iliad*, ix. 123.

goblets. These are found chiefly with the bodies of men, and may be regarded as their proper *insignia*, to be used in the other world as well as this in their potations and libations. One of these, a gold goblet from Grave IV. (Fig. 36) is not only a δέπας ἀμφικύπελλον, but it has a dove perched on each of the two handles, thus recalling the famous cup of Nestor described by Homer: "a right goodly cup that the old man brought from home, embossed with studs of gold, and four handles there were to it, and round each two golden doves were feeding."[1] Nestor's cup, indeed, had four handles and eight doves, while our Mycenaean goblet has but two of each, but the position of the doves is the same.[2] There are also silver cups of splendid workmanship, — among them the great goblet from Grave IV. whose sole remaining fragment presents the vivid Siege Scene which we reproduce and describe on page 213. Another interesting silver cup from the same grave is enriched with inlaid decorations of gold — golden lotus-plants in gold flower-pots set in a band defined by the rim above and a ring of minute inlaid gold disks running quite round the cup below (Fig. 37). All these enrichments are cut out of gold-leaf and inlaid upon the silver

Fig. 36. Gold Cup from Grave IV.

Fig. 37. Inlaid Silver Cup

[1] *Iliad*, xi. 632–5.

[2] With this cup, cf. the Cyprian cups described by Ohnefalsch-Richter, *Kypros, the Bible and Homer*, p. 275.

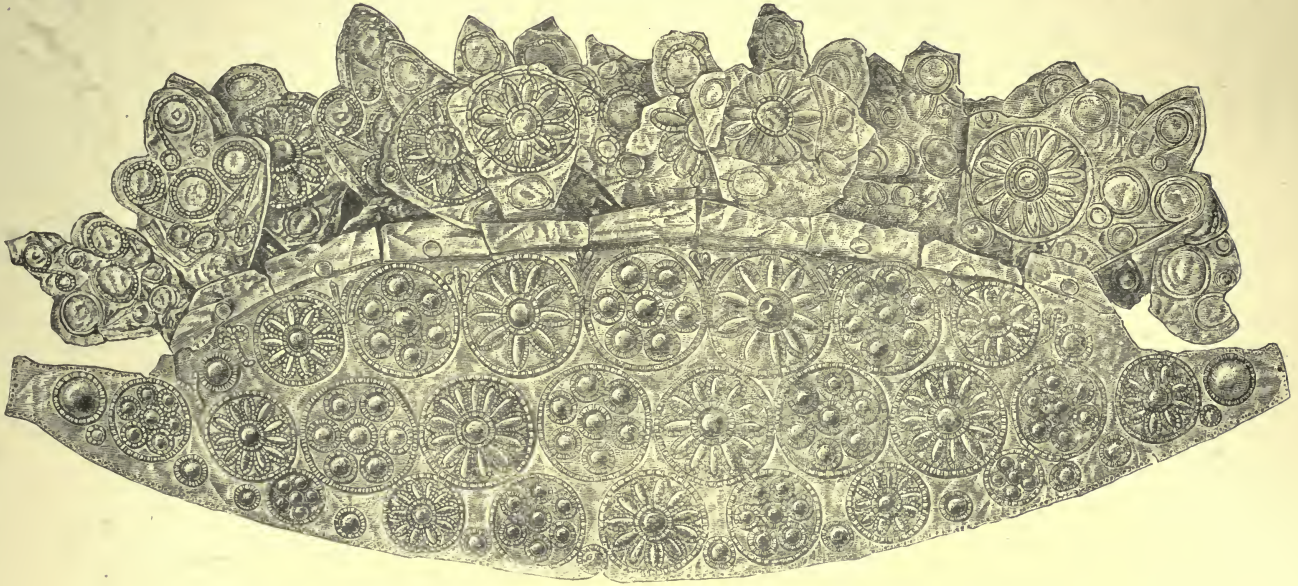


PLATE XII. GOLD DIADEM WITH CREST (GRAVE IV)

body just as are the gold heads which encircle another silver goblet from a chamber tomb (Fig. 117) and the golden figures on the dagger-blades (see pages 201, 231, 235).

Of the other offerings, the great mass is made up of ornaments for men as well as women. They include rings, beads, clasps, possibly earrings, buttons, flowers, leaves, human and brute figures, and all sorts of trinkets or trimmings. Nearly all these offerings are of

Trinkets

Figs. 38, 39. Aphrodite Figures in Gold Leaf

gold, ornaments of other metals and of glass paste being exceedingly rare in these graves. The beads, indeed, are mostly of stone or amber, but even this class includes the three gold intaglios, and the three engraved gems found with them, which we describe more particularly on page 181. Of the other votives the most important are the figures representing Aphrodite with doves hovering about her head. Two of them are here reproduced (Figs. 38, 39). The first, with a single dove, is a simple repoussé gold plate, hollow at the back, and pierced with six holes for fastening it to the dress. The second consists of two plates, and is finished on both sides. It may have

Idols

formed the head of a hairpin, as Schuchhardt has conjectured.

Beside these idols, there were found several models of temples (or rather of temple façades) in gold-leaf. On each of these again perch two doves, symbols of the cult of Aphrodite (Astarte). The temples are raised upon foundations of regular masonry, and the roofs

Gold-leaf Temples

Fig. 40. Model of Temple in Gold (Grave IV.)

are flat with a central upper structure of the clerestory type. The façade shows three doorways, and in the middle of each stands a column crowned with a capital.[1]

[1] These columns are hard to account for; it has been suggested that they were needed to carry the broad lintel (Luschan, *Ztschr. für Ethnologie*, 1892, p. 207); and again (Schuchhardt, p. 200 f.) that "the artist wished to indicate single columns or rows of columns standing in the interior, and clumsily showed one through each entrance." But Ohnefalsch-Richter takes these (as well as the column of the lion-relief) as holy symbols — Maaseboth or sun-columns — and the anchor-like projections as intended for the sun's rays (*Kypros, the Bible and Homer*, 179 f.).

Among the furnishings of Grave IV. special interest attaches to the great silver ox-head with golden horns, as well as to its tiny gold-leaf replicas (as we may call them) which were found with it to the number of fifty-six. The silver ox-head is cast in a single mould while the horns are shaped out of gold-plate and fastened on. The head itself is further bedecked and the features brought out by the application of gold — plated not directly upon the silver, which appears to have been beyond the Mycenaean goldsmith's art, but upon an intermediate plating of copper. By this roundabout process a splendid gold rosette ($2\frac{1}{5}$ inches in diameter) is set on the forehead, while mouth, muzzle, eyes and ears are accentuated by gilding which has now for the most part disappeared. The head is hollow, and between the horns there is a hole evidently intended to receive a double axe such as appears in each of the gold-leaf replicas. This emblem points unmistakably to their use: they are symbols of sacrifices offered to the dead,[1] in conformity with the well-known ancient custom of offering to gods and heroes metal or terra-cotta simulacra of real victims. The silver head in particular appears as if expressly adorned for the sacrifice in the fashion familiar to the Homeric student. In the Iliad (x. 292–4), for example, Diomede, invoking Athene's aid, makes this vow: "And to thee will I sacrifice a yearling

Silver Ox-head with Golden Horns

[1] Cf. Milchhöfer, *Anfänge der Kunst*, p. 116 f. Ohnefalsch-Richter, *Kypros, the Bible and Homer*, text, p. 240; plates, xliv.: "Heads of oxen, cows and calves appear very frequently as a symbol of sacrifice among the monuments of the copper-bronze period. Both the Kyprian and the Cappadocian ox-heads recall the large silver ox-head from Mykenae belonging to the same period, and the Kyprian example is not much below it in style and execution. . . . A striking analogy to our Kyprian ox- cow- and calf-head amulets and bronze votive tablets in the form of an ox-head, is found in the gold-leaf Mykenaean ornaments in the shape of ox-heads with double axes between their horns, and also in a terra-cotta votive plaque from Carthage."

heifer, broad at brow, unbroken, that never yet hath man led beneath the yoke. Her will I sacrifice to thee, and *gild her horns with gold.*" Again, in the Odyssey (iii. 382–4) we find Nestor making the same vow to the same goddess, and we even witness the gilding of the horns by Laerkes the goldsmith (*ib.*, 429–438): "So the heifer came from the field: . . . the smith came holding in his hands his tools, the means of his craft, anvil and hammer and well-made pincers, wherewith he wrought the gold; Athene, too, came to receive her sacrifice. And the old knight Nestor gave gold, and the other fashioned it skillfully, and gilded therewith the horns of the heifer, that the goddess might be glad at the sight of her fair offering."

Of the rich spoil of this grave, two more objects require mention. One of these is a lion-mask in gold; the other a vessel of an alloy of silver and lead cast in the form of an antlered stag. With this may be compared "the figure of an ox treated partly as a statuette, partly as a vase" found in a grave at Hagia Paraskevi in Cyprus.[1]

Lion Mask and Stag-vase

Among the finds from Grave V., which puzzled Schliemann, were twelve rectangular gold plates, four of them embossed with interwoven spirals, the rest with two slightly different designs of a lion chasing a stag. Schuchhardt found that "these plates had belonged to two small caskets, whose hexagonal wooden bottoms are still in existence. The long sides correspond exactly to the long plates [with the figure designs], the two short sides to the two short ones." These ornate boxes would naturally be taken for a lady's belongings, but the inference would be erroneous, as only men were buried in this grave. The genuine shell of an ostrich egg

Gold-plated Caskets

Ostrich Egg

[1] Ohnefalsch-Richter, *l. c.*

PLATE XIII. SILVER OX-HEAD FROM GRAVE IV

found in this tomb is one more immediate voucher for the early commerce between Greece and the East.

From Grave III. again, in which only women and children were buried, we have two pairs of golden scales (in miniature). The trays are simply disks of gold-leaf — one pair of them stamped with a butterfly, the other with a leaf and circle pattern — like the seven hundred odd gold-plate dress-trimmings found in the same tomb. The cords are thin strips of gold, and the beams tubes of thin gold plate which must have covered a bar of wood or bronze. Of course these balances are too frail ever to have served any practical purpose. Dr. Schliemann thought them symbolical, like "the scales in the wall paintings of Egyptian tombs, in which are weighed the good and bad deeds of the deceased;" and he recalls the golden scales wherein Zeus weighs the "lots of doom:"[1] Golden Balances

"Then the father hung his golden balances, and set therein two lots of dreary death, one of Achilles, one of horse-taming Hector, and held them by the midst and poised. Then Hector's fate sank down, and fell to the house of Hades, and Phoebus Apollo left him."

But these miniature balances rather represent simply a part of the housewife's outfit, as do the small knives found exclusively in women's graves in the lower town. In an age without money, women as well as men would have frequent occasion for weighing. Thus, when the Phoenician kidnapper comes peddling his wares to the palace of Eumaeus' father,[2] and displays "a golden chain, strung here and there with amber beads," we see the maidens in the hall and their mistress "handling the chain and gazing on it and offering him their price," which could hardly be determined without weighing the gold.

[1] *Iliad*, xxii. 210–213.

[2] *Odyssey*, xv. 459 ff.

We have now to consider the vexed question of the circular inclosure in its ancient aspect and office, and in its relation to the original fortress — a question postponed to this point because it is one that interests the archaeologist rather than the general reader. Dr. Schliemann's notion that this was "the circle of the agora," we need not stop to discuss; if we have been fortunate enough to make out an agora of the Mycenaean age, it seems to be at Gha in Lake Copais rather than in Argos.

The current view is that the circle was a *temenos*, set apart and consecrated to the illustrious dead entombed within it. The uneven inclosure (it is held) was filled up to the level of the entrance threshold, and on the level thus formed the stelae were planted. So it remained until the dynasty whose sepulchre it was had passed away. Afterwards in the course of ages the earth, washing down from the upper terraces of the citadel, buried it under the great mound Schliemann found there.

This temenos theory is one we find it difficult to accept, and our objections to it may be briefly stated.

Objections to *temenos* theory

First, according to Schliemann's account, the lower strata of the mound were not such as they would have been if washed down by the rains; and the *débris* above the tombs to the height of the ring-wall contained layers of nearly pure red earth, such as is foreign to the formation of this rock-hill and must therefore have been carried from without.[1] This warrants the inference that the inclosure was not covered up gradually by the action of the elements, and goes to show that the circle was filled up at least to the top of the ring-wall as soon as that wall was made.[2]

the circle-mound not a work of chance

[1] The authority for this statement is Petros Christopoulos, who was employed in the excavations, and has been custodian of the Museum at Mycenae ever since.

[2] This was Schliemann's opinion (*Mycenae*, p. 88): "It deserves particular

Second, a glance at the precinct as it remains to-day shows that — contrary to the general belief — it was never entirely leveled. For, in the first place, the rock-surface of the eastern half is not only very uneven, but actually lies higher than the threshold of the entrance. Again, we find many unwrought stones laid against the vertical slabs of the inner ring to keep them in position. Had the circle been leveled, these of course must have been covered up; but in fact — though disturbed and doubtless lowered by the excavators — they still lie three feet higher than the level of the threshold. Indeed, the precinct could have been leveled only in one of two ways — by cutting down the soft rock on the east (which would have been easy enough) or by grading up to it on the west. The first we know was not done; the second course would not only have buried much of the ring-wall on the west, but would have blocked up the entrance. More than that: it would have buried all the sculptured tombstones. For, as we are informed, the three sculptured stones on Grave V. stood twenty inches, and the one on Grave II. five feet lower than the ring of slabs.

precinct not leveled

Thirdly, the entrance was an open passage; at least there is no trace whatever of a gate. Now it is hardly conceivable that a consecrated place should be left open to all comers, — even to dogs, which we know were kept inside the Mycenaean acropolis.

Entrance open

Fourthly, as Steffen's plan shows, before this entrance there are remains of houses, later indeed than the ring-wall, but still of the Mycenaean age. When these houses were built, the *temenos* (if such it was) could not have been abandoned, yet the houses blocked its

and blocked by houses

attention that on the inner side of the supposed circle . . . the vacant space has evidently been filled up with *débris* to the very top of the wall immediately after its completion."

entrance and rendered access to it well-nigh impossible. Such encroachment on a sacred precinct could hardly have been tolerated.

Fifthly, the orientation of the stelae — of which nine were found in place — makes against the *temenos* theory.

Orientation of stelae

According to Schliemann, all of these faced west — notably the four sculptured stones had their reliefs turned that way. Why was this? Belger's [1] answer is: "The stelae, like the dead in the graves beneath, faced the land of shades, i. e., the west." But in fact, two of the bodies in Grave IV. lay with heads to the north;[2] and, further, we shall see that in the tholos and chamber-tombs, as among the later Hellenes, in this matter no fixed rule obtains. But had there been such usage, it certainly would not have determined the orientation of the stelae. That would depend on the place, e. g., in a street of tombs, the tombstones would always face the thoroughfare. On the *temenos* theory, the rule is reversed here: all the stelae turn their backs on the sole entrance (so far as we can positively make out) to the precinct and the road leading through it. The reliefs ought to have faced not west but east in order to be seen from the entrance or the thoroughfare.

These considerations seem fatal to the theory that the slab circle inclosed a temenos set apart and frequented for the cult of the dead. Not only so, but these very considerations point to a radically different conclusion, which we hold to be the true one, namely, that the ring of slabs was formed in the first place as a retaining wall for this embankment. It was, that is to say, the foundation of a tumulus raised above these tombs, which resembled in many ways the tumuli of Attica. One

Not a temenos but a tumulus

[1] *Mykenische Lokalsage*, p. 38. [2] *Mycenae*, p. 215.

of these, at Velanideza, was found to be inclosed for about a third of its circuit by a wall of *poros* slabs and unbaked bricks. Possibly there was a passageway here, as at Mycenae, but even without this it was easy to effect an entrance whenever a new interment was to take place by pulling down a section of the rude wall. At Mycenae, on the other hand, the inclosure was too elaborate to be breached in this way; and so a passage was reserved. This,

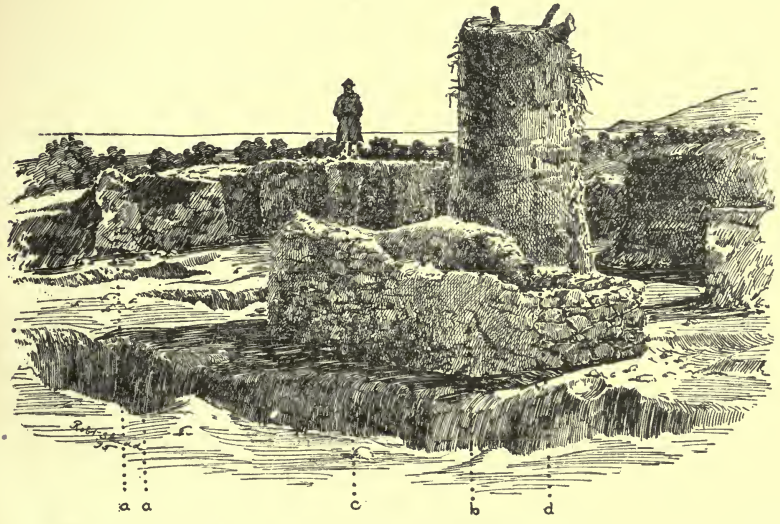


Fig. 41. The Tumulus at Velanideza in Attica

however, was used only on occasion of burial, and was kept closed the rest of the time by slabs or a stone wall, such as we shall find actually closing the beehive and chamber tombs. This is the reason, no doubt, that the threshold shows scarcely any signs of wear, as it would do if the place had been a *temenos*, and the entrance open for ages.

Now it is commonly held — and there is much to sustain the view — that the slab-circle, with the supporting wall on the west, is later than the graves, while the section of the

circuit wall west of the inclosure is later than either of these. This was long ago observed by Adler[1] and is evident from the marked bend in the circuit where it approaches nearest to the supporting wall. This bend can be explained only by assuming that the supporting wall is the earlier, and that the natural course of the circuit wall was changed in order to leave a passageway between the two for the garrison. And not only this section, but the south-west wall entire and the Lions' Gate itself are later than the tombs. The tombs, that is to say, were originally outside the acropolis.[2]

The Graves outside the original wall

Further, even the graves are not all of the same date; but the fourth is apparently the earliest as it lies lowest, followed in order as the ground rises by the third and fifth. Over the fourth grave (as we have seen) and only three feet above its mouth was erected an altar — in reality, a sacrificial pit for the worship of the departed in the tomb beneath. This altar was 8 feet below the level of the ring-wall, or on the theory of a leveled temenos four or five feet under ground. Doubtless it was placed there when this was the only grave and the rough rock slope in its natural state. Then when the fifth grave was added the family sepulchre thus enlarged appears to have been covered with a common mound or tumulus, for whose support a rough foundation-wall on the west would be required. Now, in fact, the present supporting-wall does not seem to be all of the same age, for at

The graves of different dates

[1] *Arch. Zeitung*, 1876, p. 197.

[2] So Adler (*Tiryns*, xxvii.), who holds to the temenos theory: "Originally lying outside at the old approach to the fortress, and afterwards included in the circuit of the walls, this family sepulchre was at last made into a sacred enclosure with an entrance gate, in order to celebrate solemn rites there." But Steffen maintains that the graves were "von vornherein innerhalb der Akropolis" (*Karten von Mykenai: Erl. Text*, p. 31).

the point where its height is greatest (namely, $18\frac{1}{3}$ feet) it is vertical to the height of 5 feet, and thence slopes inward. The perpendicular part is probably a remnant of the older foundation wall, on which the present one was afterwards built.[1] Again, although the second grave (which appears to be later than the third, fourth and fifth, but earlier than the other two) lies at the western side, where the rock falls off abruptly, its bottom is $6\frac{1}{2}$ to $9\frac{3}{4}$ feet above the level of the bottoms of the three earlier graves. Hence its total depth in the rock is barely 20 inches. Now as an actual grave so shallow as this would be out of the question, this one must have been sunk when the rock lay considerably beneath the surface. We may assume, then, that it was dug in the side of an *artificial tumulus*, and hence the stele upon it, although later than those, *e. g.*, on the third tomb, was set on a lower level than they. Before the first and sixth graves were dug, the tumulus apparently was again enlarged. Finally the present supporting wall was built, the cemetery inclosed, and the inclosure filled up at least to the height of the slabs. At each enlargement of the mound, the old monuments — which, like the altar, could not be removed, or which for other reasons were no longer desirable — were covered up and replaced by others on the new tumulus.

The tombstones faced the west, because they were placed there before the cemetery was inclosed or the mound raised, and consequently before the present western wall of the acropolis was built. At that time there must have been a frequented thoroughfare west of

Stelae face the road

[1] It is generally stated that the supporting wall is only 13 feet high, and all of it sloping (*Mycenae*, p. 87 f.). In fact its lower perpendicular part, which is near the fourth tomb, we discovered only in 1891, while seeking to ascertain whether any remains of an older foundation were preserved.

the graves, undoubtedly the principal avenue leading to the citadel. Upon this, naturally, the monuments fronted. Had the slab circle already existed, its height would have quite hidden them from view, but in fact, when the monuments were erected, there was nothing but a low retaining wall between them and the road.

Naturally, the tumulus which was used as a family burial-place would be enlarged from time to time; and a parallel is afforded not only by the tumuli of Attica, but also by the Homeric poems. So Achilles,[1] grieving by Patroclus' pyre and looking forward to his own doom, directs that over his comrade's ashes a mound of moderate size be heaped, which should be afterwards enlarged to receive himself. "No huge barrow I bid you toil to raise — a seemly one, no more; then afterward do ye Achaeans build it broad and high, whosoever of you after I am gone may be left in the benched ships."

Gradual growth of the tumulus

It accords with ancient custom, too, that we find this family sepulchre just outside the citadel and on the main road to it. Thus Euripides, in his Helena, represents Theoclymenus — an Egyptian, indeed, but Hellenic in his sentiments here — as saluting his father's tomb by the palace-gates: "All hail, my father's tomb! I buried thee, Proteus, at the place where men pass out, that I might often greet thee; and so, ever as I go out and in, I, thy son, Theoclymenus, call on thee, father."[2]

Tomb at the entering in of the Gates

After its inclosure no more graves were dug within the circle; but it is not improbable that some of the nineteen persons, whose remains were found in the six graves, were buried subsequently; at least, the provision of an entrance

[1] *Iliad*, xxiii. 245 ff.

[2] Euripides, *Helen*, 1165–8, tr. E. P. Coleridge. See Fustel de Coulanges, *The Ancient City*, p. 44.

shows that further access to the cemetery was contemplated. Be that as it may, it was apparently not much later that the citadel was considerably enlarged by the erection of the present south-west wall and the Lions' Gate, as well as by a considerable extension eastward from the Water Gate.

Enlargement of the Citadel

The oldest wall on the west began apparently at the north-west corner of the acropolis and coincided with the present wall as far as the Lions' Gate; thence, however, it followed an almost straight line probably as far as the Chavos. A few traces of this work, indeed, are preserved on the left of the ascending roadway (E) as one goes up. The earlier gate must have been about midway along this wall, and, in fact, some 80 feet south-east of the end of the ascent (E), at the point indicated by the letter C in the plan, some blocks were found, which are in all probability remains of this gate. The approach was not, however, from the south-west, as Adler supposed,[1] but from the north, just as was that to the Lions' Gate; it was, in fact, the causeway with Cyclopean substructions (E), which was not destroyed with the rest of the wall on this side on the enlargement of the fortress, but was left to serve as an avenue from the Lions' Gate directly to the upper citadel — the only other way being a narrow passage between the grave-circle and the western wall.

As this ramp comes to an end some 80 feet before reaching the gate now in evidence, we must assume at that point in the wall another gate, or rather an open entrance. This would be strictly analogous to the arrangement at Tiryns, where we find a ramp carried along the wall and ending before an open entrance, while the fortress-gate is some 60 feet further in.

[1] *Tiryns*, xv.

This enlargement of the fortress was probably connected, as we shall see, with a change in the ruling dynasty. That change undoubtedly put a stop to burials within the inclosure, leaving the eastern half of it unoccupied. Thus, too, we account for the building of houses which block up the entrance; that entrance was no longer required (as it would have been on the temenos-theory) and the tumulus was none the worse for the houses before it. It goes without saying that this entrance had no relation to the Lions' Gate, but only to the street which followed the western curve of the slab ring and then mounted to the citadel.

We may add that, besides the six graves inside the inclosure, there were probably several smaller ones, on the outside of it, making up with these an entire cemetery. But, after the change due to the enlargement of the acropolis, these humbler tombs were neglected and houses were built over them, while the royal tombs were preserved. In fact, in the ruins of the houses south of the inclosure, we may still see some oblong pits hollowed in the soft rock, but of little depth, doubtless because the rock here lay below the surface. One of these is clearly older than the houses, since a house-wall is built over part of it. From some one of these neglected graves, obviously, must have come several precious objects found to the south of the circle, viz., two gold rings (including the remarkable signet reproduced in Fig. 65), and four gold cups. The remains of these houses — in which was found also the oft-cited "Warrior Vase" — belong to the later Mycenaean period, while the gold finds, and especially the large seal ring, are undoubtedly contemporaneous with the earlier Mycenaeans buried in the graves.

PLATE XIV. TREASURY OF ATREUS (MYCENAE)

CHAPTER VI

THE DWELLINGS OF THE DEAD: BEEHIVE AND CHAMBER TOMBS

The tombs of the second class are subterranean chambers approached by horizontal avenues hewn usually in a rocky hillside. In their construction, the workmen began at a given point in the slope and cut the dromos "in the form of a trench" straight into the hill, so that the bottom was horizontal while the vertical sides increased in height as the work advanced. At the inner end of the dromos — in effect a vertical rock-façade — a doorway would then be cut, and the chambers, usually square or oblong, hollowed out. The débris would be carried out through the dromos, of course, as the chamber, hewn in the solid rock, had no other exit. These simple rock excavations we shall, for convenience, call chamber tombs.

From them we must distinguish those "artificial subterranean chambers" in the form of a vault or beehive. Both have in common the dromos, but the construction of the tomb itself is notably different. Instead of a horizontal excavation proceeding from the dromos, a circular shaft is sunk vertically from the rock surface (just as in making a lime-kiln nowadays) to the level of the dromos and in due proximity to it. In this cavity the tholos is built up in circle upon circle of regular ashlar masonry, each course overlapping the one below it so as to form a

Beehive Tombs

continuous inward curve until the apex can be closed by a single block. As the walls rise they are "covered externally with small stones bedded in clay mortar, and, when finished, so completely piled over with earth that they appear outside like simple barrow-graves," if not quite hidden like the chamber-tombs. The vaulted or beehive tomb is further distinguished by the treatment of the dromos, whose vertical sides are usually revetted with ashlar masonry.

Where found

The beehive tombs thus far known are distributed as follows: at Mycenae, eight; near the Argive Heraion, three; at Thoricus, three; and one each at Vaphio (ancient Amyclae); at Kampos (near ancient Gerenia), four hours south of Kalamata; near Menidi (Acharnae) in Attica; at Orchomenos in Boeotia; and near the village of Demini in the neighborhood of Volo in Thessaly. In addition to these more important or better known tholoi there is another on the slopes of Taygetos, near Arne, six hours south of Sparta; one at Eleusis in Attica; one in Kephallenia; and three at least in Crete, thus bringing the total up to twenty-five.[1]

[1] Dr. Halbherr (under date of July 8, 1894) reports that he had "excavated three Mycenaean domical tombs" in the necropolis of Erganos in Crete. One of these (he says) was perfectly preserved. It contained the remains of six bodies with all the sepulchral objects, consisting of different Mycenaean vases, still apparently in the position in which they were placed some thousand years B. C. (*Am. Jour. of Arch.* 1894, p. 541). Since then a number of others have been reported from Crete, especially by Mr. A. J. Evans, who mentions (*Academy*, June 20, 1896) a Mycenaean tholos tomb turned into a shepherd's shelter, and "a whole group of beehive tombs about 6 feet high internally." These were near Hagios Georgios; and some kilometres distant, on a spur of Mt. Selene, he found a "town of castles" or Cyclopean strongholds, one of them "possessing a feature of exceptional interest. To the left of the entrance ramp the outer wall of the stronghold bulged out in a semicircular form; and on the external face of this wall were small openings which proved to be the dromoi of beehive tombs within. The same phenomenon was observable on

At Mycenae the vaulted as well as the chamber tombs all lie outside the citadel. Of the former two are of preëminent importance, both of them within the town-wall and alongside the road leading from Charvati to the Lions' Gate. These are the so-called "Treasury of Atreus," known in the neighborhood as the Tomb of Agamemnon, and the so-called "Tomb of Clytemnestra." The former gets its current name not from Pausanias directly (as does the kindred structure at Orchomenos) but only by inference. While it is only in a general way that he mentions at Mycenae "underground structures of Atreus and his sons, where they kept their treasures" (ii. 16, 6), in another passage (ix. 38), he distinctly names the Orchomenos building the "Treasury of Minyas." Over these two passages, years ago, there was a warm controversy among archaeologists, some maintaining that these structures were treasure-houses, others that they were tombs. At present, however, the latter view is accepted on all hands and (we believe) without dissent.

At Mycenae

As the "Treasury of Atreus" is the type of the tholos tomb in its highest structural perfection, as well as the most perfectly preserved monument of Mycenaean architecture, we shall describe it in some detail. Starting about halfway up the eastern slope of the rocky ridge from a terrace of Cyclopean masonry, a horizontal passageway (or dromos) is hewn straight into the hillside.

Treasury of Atreus

the north-eastern wall, and here marauders had thrown out the contents of a ruined tholos within, consisting of red pottery of the Mycenaean type. This system of intramural interment in its most literal sense, of which I was afterward to find other examples in Eastern Crete, is of the highest interest, and the parallel to the tomb within the semicircular bay of wall and the acropolis graves of Mycenae cannot be overlooked. It seems probable that the Spartan practice of burial within the city was rooted in a widely spread Mycenaean usage, of which we here see a very rudimentary version."

This dromos is 20 feet wide and 115 feet long, and its vertical sides, rising with the slope of the ridge, are at the end some 45 feet high. It is paved with a whitish earth brought from without and trodden hard, and its sides are revetted with massive ashlar masonry, a

Dromos

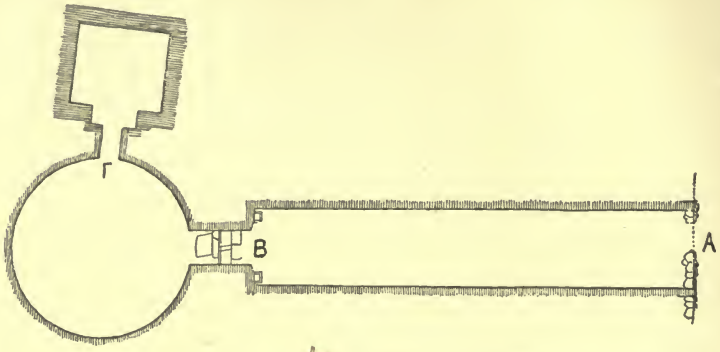


Fig. 42. Plan of Treasury of Atreus

single block of which measures on the wall face 20 feet long and 4 feet high. By this avenue one approaches the imposing façade of the tomb — a vertical wall 20 feet wide

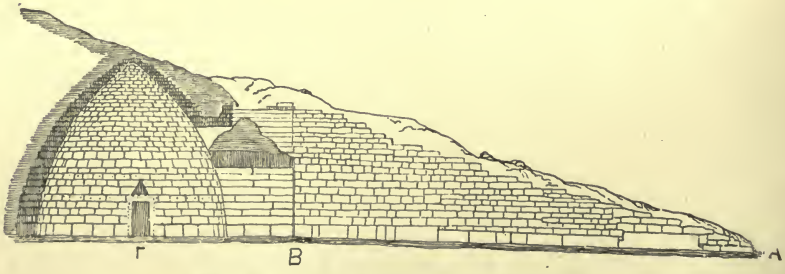


Fig. 43. Section of "Treasury of Atreus"

and 46 feet high. The door is 17 feet 9 inches high and its breadth varies from 8 feet 9 inches on the ground, to 8 feet 1 inch at top; while the depth of the doorway (i. e., the thickness of the façade) is 17 feet 6 inches. The lintel

is composed of two enormous blocks, the inner one measuring 29 feet 6 inches in length by 16 feet 6 inches in breadth and 3 feet 4 inches in thickness, with an estimated weight of 120 tons.

Façade

At either side of the doorway is a square plinth still *in situ*. On these bases rose semi-columns, of which fragments have been found elsewhere as well as one of the capitals which is now in the National Museum at Athens. Both shaft and capital were of a dark gray alabaster, and richly carved in zigzags and spirals, as shown in the restoration (Fig. 44); and there was doubtless above the capital a cornice of alabaster slabs, as may be inferred from fragments of such a cornice actually found in the "Tomb of Clytemnestra." Over the great lintel we find the triangular relieving space, as over the Lions' Gate. This is now open, but was once closed by slabs of red porphyry carved with spiral ornaments.[1] Beside the pilasters with their capitals, and the colored marbles of the cornice and the triangle screen, this stately portal doubtless presented still other decorations; at least, we may fancy it furnished with a casing analogous to that of the rock-cut tomb represented

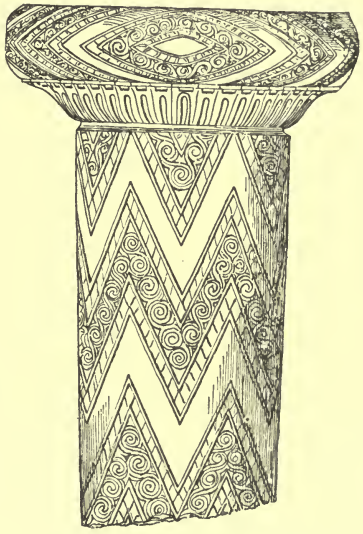


Fig. 44. Mycenaean Column

[1] Two at least of these porphyry slabs are preserved — one at Athens, the other in the British Museum. On the latter see *Journal of Hellenic Studies*, 1886, p. 168.

in Fig. 16, only richer in every way, as would become a royal sepulchre. Holes in the face of the lintel show that in all probability this too was relieved by metal ornaments.[1]

Folding-doors

Pivot-holes in the sill and lintel remain to show that the entrance was provided with folding doors, and there are other sockets in the deep jambs which may have been designed to receive the knobs or hooks when the doors were thrown open. Beside these, in each side of the entrance there are many nail-holes, often retaining the bronze nails which may have served for affixing plates of bronze or other embellishments.

The dome

The chamber entered by this stately portal is a *tholos* or circular vault some 48 feet in ground diameter, and 48 feet in height. It is formed by thirty-three courses of large hewn blocks, perfectly joined — each course a perfect circle and all gradually converging in a smooth curve to the apex where the dome is capped with a single stone. Moreover, this structural perfection was still further heightened by the resources of decorative art. From the third course to the capstone the great concave is fretted with holes at recurring intervals, some of them with the bronze nails still in place. Along the third, fourth and fifth joints these holes are in pairs, side by side, evidently to receive double clamps, which in all probability served to affix a frieze in two bands. Above this the holes are single and smaller, and (as Dr. Dörpfeld conjectures) they doubtless mark the somewhat regular pattern in which (as at Orchomenos) bronze rosettes were distributed.[2] It was once held that the entire wall was cased with metal,

[1] Chipiez in his brilliant restoration has here supplied five lion-heads, and framed the door with the rosette-border of Fig. 16, as suggested in our text. According to Adler (*Tiryns*, xxxix.), "bronze plates seem to have covered the greater threshold and to have made a special frame for the principal door."

[2] Cf. Belger, *Beitr. zur Kenntniss der Gr. Kuppelgräber*, p. 28.

but the arrangement of the holes is not such as to bear out this view.

From the tholos a second but smaller folding-door, whose posts and lintel show traces of rich decoration, leads into a square rock-hewn side-chamber. This chamber was once lined with rubble masonry, which was in turn cased with slabs of alabaster. Near the centre of the chamber, there is cut in the rock-floor a pit with four somewhat irregular sides, measuring from 4 to $4\frac{1}{2}$ feet, and about 1 foot deep. In it lay a square block of breccia with two round holes drilled in its upper surface, such as we find in the bases of the *antae* in the palaces; from this we may infer that the stone served as basis for a wooden pillar. Now if the walls were cased with alabaster, we should look for a ceiling of the same pattern, such as we actually find in the corresponding chamber at Orchomenos. But in the Treasury of Atreus, the side-chamber measures some 27 feet square by 19 feet high; and with all due allowance for the thickness of the rubble walls, it would have been no easy matter to find slabs that would reach from one wall to the other; hence a supporting pillar would be required.

Side chamber

Such, briefly described, is the Treasury of Atreus; but the impression of the structure itself is beyond the power of words. Every visitor must be awed by it, even apart from its august and immemorial story. And the impression is heightened by the suddenness with which it breaks upon the view. One may follow the road from Charvati to the Lions' Gate, quite unaware that this stately monument looks down upon him. Only on scrambling up the hillside to the Cyclopean terrace, does he catch sight of the portal through the splendid avenue. But more imposing still is the great buried dome. Ernst Curtius found no other

monument of Ancient Greece so impressive as this "lofty and solemn vault."[1] And the architect Adler says of it: "The room makes the impression of a natural vault, simply by its proportions, its disposition, and its texture. . . . Here the constructive power and rich experience of the architect appear quite a match for the resources of the prince."

"Tomb of Clytemnestra"

Hardly less noteworthy, in some respects even more so, is the second tholos in the same hillside, but 400 yards further north, and nearly due west of the Lions' Gate. It is popularly known as the "Tomb of Clytemnestra," or as "Mrs. Schliemann's Treasury," from the fact that that lady partially excavated it in

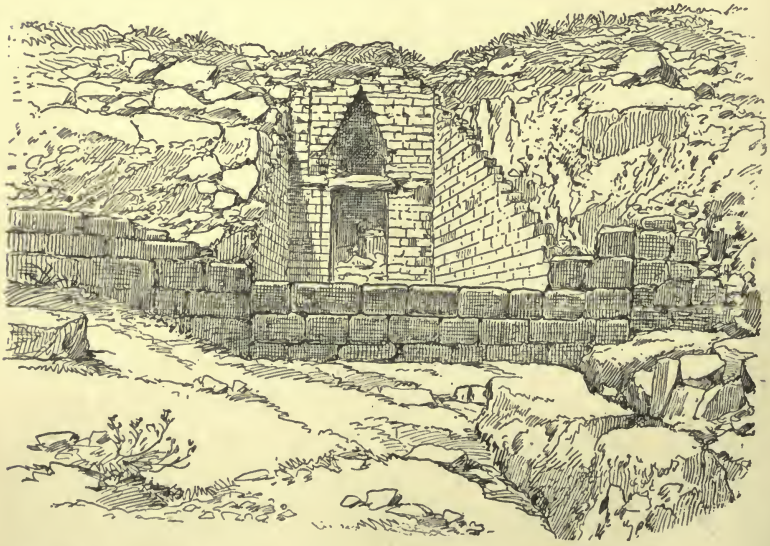


Fig. 45. "Mrs. Schliemann's Treasury," showing Wall across Dromos

1876. It is not yet completely cleared, nor is it so well preserved as the Treasury of Atreus, the upper courses of the dome having fallen in long ago. The dromos is 125

[1] *Peloponnesos*, ii. 409.

feet long and nearly 20 feet wide, the sides being again faced with ashlar masonry, though the blocks are less massive than in the avenue already described. As the dromos is 10 feet longer than that of the Treasury of Atreus, so the doorway is somewhat larger, measuring 18 feet in clear height, and the same in horizontal depth. The ground width of the door is a trifle greater, the upper breadth a trifle less, than the corresponding measurements in the other tomb. Here, too, the façade was adorned by alabaster semi-columns; but instead of the carved zigzag-spiral pattern, these have a regular Doric fluting. A considerable section of one of these shafts — rising above the third course of the breccia-facing — is still *in situ*. Like the column in the Lions' relief, and the pilasters of the Treasury of Atreus, it tapers slightly downward — the circumference at the base measuring nearly two inches less than at the top of the fragment. An alabaster capital which lay by the doorway, and was at first taken to belong to the column, proves to be quite too small for the shaft. The lintel is formed of three great blocks of leek-green marble; "in the centre slab are the pivot-holes for folding-doors, which opened inwards. The inmost block runs far into the wall on both sides and joins a stone-course of the same height, running right through, and made of thirteen blocks which form a real tie-beam. The remaining square blocks are very much lower and cut like slabs."[1] The lintel is surmounted by a sort of moulding composed of two projecting slabs of bluish-gray marble. The lower slab is carved with a line of disks in low relief, evidently representing again the beam-ends of a roof-frame, such as we have seen in the relief above the Lions' Gate; while the upper slab is carved with spirals. The triangle, as at the Treasury of

[1] Adler, *Tiryns*, xxxviii.

Atreus, was closed by sculptured slabs of red marble, and is still walled up on the inside — a fact showing conclusively that this space was never meant for a window.

While very like the Atreus tomb in plan and dimensions, this tomb differs from that in several features. It has no side-chamber; but it has a separate pit-grave (9 feet long, 4 feet wide, and about $1\frac{1}{2}$ feet deep) sunk in the dromos some 18 feet outside the doorway.[1] Further, at the centre of the tholos itself, there is a pit hewn in the rock, and full of water for many months in the year, with an underground conduit leading from it to the outer end of the dromos. It would seem that the pit was dug and the aqueduct constructed by the builders of the tomb to collect and carry off the water which was found trickling from the rock, and not only made the vault damp, but endangered its stability. This tomb is still further distinguished by the preservation of the wall of poros stones which blocked the doorway, and which stood to a height of nearly 5 feet, until necessarily destroyed a short time ago; as well as by a similar wall more than 7 feet high, which blocks the outer end of the dromos to this day (Fig. 45). Of the six remaining tholoi now known at Mycenae but one is inside the town wall. It lies between the tomb of Clytemnestra and the citadel, and was discovered in November, 1892, but has not yet been entirely excavated.

Peculiar features

Of the five outside, all but one have been cleared. Of all these the largest and best built is one situated to the north-west of the Lions' Gate not far from the town wall. The dromos is 70 feet long and $16\frac{1}{3}$ feet wide, and its sides are faced with squared blocks of poros, while the outer end was closed by a wall

Tholoi outside town walls

[1] Here were found the ivory mirror handles described in Chap. VII.

which is now destroyed. The doorway is 17 feet 10 inches in height, 8 feet 6 inches wide below, and 16 feet 9 inches deep. The façade was dressed with hewn blocks of poros,

Fig. 46. Façade of Beehive Tomb

while the sides of the entrance (which is nearly 17 feet deep) are faced with breccia. Three huge blocks of the same breccia form the lintel. A pivot-hole in the lintel shows that this tomb also must have been closed by a door, though the door-sill is not preserved to confirm the fact. Of the tholos — whose upper part fell in long ago — the ground course is formed of massive blocks of breccia, well hewn, but from this up the wall is built of small limestone

slabs. The ground diameter is about 47 feet, or very nearly that of the Treasury of Atreus; the floor is leveled and covered with lime-plaster, which here and there retains traces of red color. In the floor were found two oblong pits — tombs within the tomb. One of these measures 17 feet 9 inches by 5 feet 6 inches, and is 10 feet deep, thus closely resembling the acropolis graves, although neither side-walls nor covering slabs were found in it. The other pit has the sides walled with poros, and appears to have been covered in the same way, thus resembling the customary Hellenic graves; still it is undoubtedly coeval with the tholos itself.

After the greatest of the domed tombs at Mycenae, the first place belongs to that of Orchomenos in Boeotia. In some respects indeed the Orchomenos tomb is more remarkable than the Treasury of Atreus. With the like structural perfection, its unique sculptured ceiling gives it a distinct preëminence in decorative character. Moreover, it brings more definite credentials from antiquity than any other monument of its age. It was already known to Pausanias as the Treasury of Minyas, and is thus traditionally associated with the great dynasty which made Orchomenos a synonym for wealth and power, to be coupled with "hundred-gated Thebes."[1] The old second-century traveler, who found it open and turned to alien uses, is not content to tag it in his usual way as a thing "worth seeing." On the contrary he is powerfully impressed by it and expresses himself accordingly. After telling us that Minyas (who is properly enough the son of Chryses and grandson of Chrysogeneia) had revenues so vast that he was richer than all his predecessors and was the first of men to build a treasure-house to hold his wealth,

[1] *Iliad*, ix. 381 f.

he goes on to say: "But the Greeks are great hands at admiring things abroad in preference to those at home: thus eminent writers have seen fit to describe minutely the Pyramids of Egypt while they have not a word to say of

Fig. 47. "Treasury of Minyas" at Orchomenos

the Treasury of Minyas and the Walls at Tiryns, *though these are not a whit less wonderful*" (ix. 36). And returning to the subject further on (c. 38) he characterizes the structure as "a wonder second to none in Greece or in the world at large," and adds a tolerable description — so far as it goes — of the tholos as we know it.

This description shows that in Pausanias' time the Treasury was intact and open; and when Dr. Schliemann

excavated it (1880 and later on) he found full evidence of Macedonian and Roman occupation — apparently as a sanctuary. Under the great blocks that had fallen in were "layers of ashes and other burnt material 12 feet deep, perhaps the result of sacrificial fires."

Unfortunately the dromos was used as a quarry for building a chapel some thirty years ago and is so completely

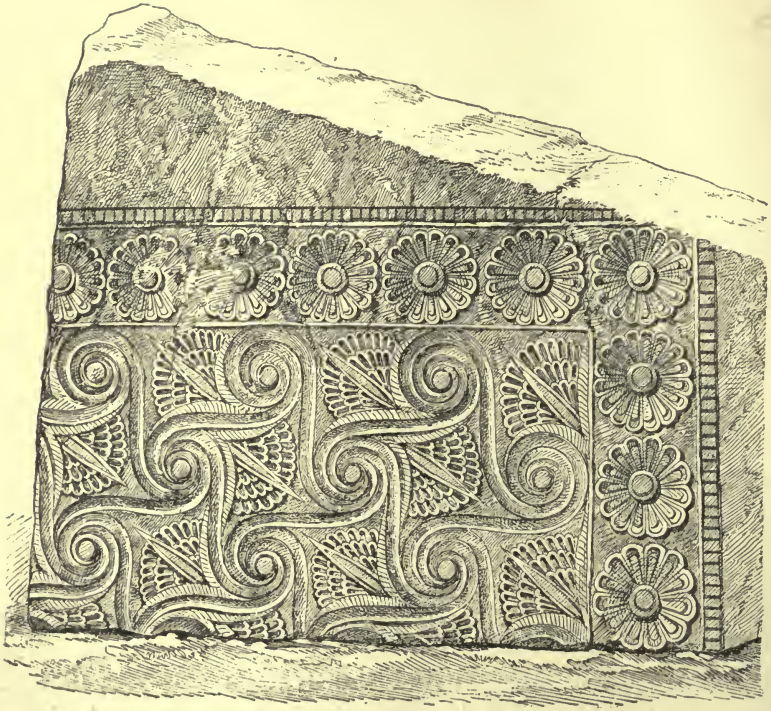


Fig. 48. Fragment of the Orchomenos Ceiling

destroyed that only one stone remains in place. This datum is sufficient to determine the breadth, which is 16 feet 9 inches; but there are no means of determining the length. The doorway is 17 feet 11 inches high, 8 feet 10 inches broad at the bottom and 8 feet at the top. The tholos has

PLATE XV. INTERIOR OF THE TREASURY AT ORCHOMENOS

a diameter of 46 feet and is built of well-wrought marble, but all the courses above the lintel fell in long ago. From the fifth course up, the blocks are pierced at regular intervals by bronze nails which doubtless served, as in the Treasury of Atreus, to fasten on decorations, — in all probability, rosettes of bronze. This tomb, again, has a side-chamber, measuring 12 feet 4 inches by 9 feet. It is however, not a simple rock-hewn chamber, excavated from the tholos through its own doorway. Instead a separate square shaft was sunk from the surface to the level of the tholos floor, — like the ordinary shaft-grave but for its greater depth, — and then lined to the height of eight feet with walls of small quarry stones bonded with clay which carried a roof of green schist slabs 16 inches thick. These slabs formed a superb ceiling, their lower faces being so carved as to make up one rich composition (Fig. 48) of rosettes and spirals apparently reproducing a textile pattern; and the walls were faced in the same way. Above this ceiling, it appears, the walls were carried up to a certain height, and the cavity or second story thus formed again roofed with slabs; then the shaft was filled with earth. This upper cavity, like the ordinary triangular space, was designed to relieve the pressure on the sculptured ceiling; and it answered the purpose for three thousand years or more. It was not until about 1870, according to Dr. Schliemann, that, under the pressure of the superincumbent mass of rubbish, the ceiling fell in.

The remaining tholoi are comparatively unimportant from a structural point of view. In no one of them is the façade decorated with columns or colored marbles, nor is there in any case a side-chamber or a door to close the entrance — every one being closed, as it appears, simply by a stone wall. But there are certain peculiar features in

various ones of these secondary tholoi which must be noted.

In the doorway of the Vaphio tomb we found a pit measuring $6\frac{1}{4}$ by 6 feet and $6\frac{1}{4}$ feet deep; this was empty, though a thin layer of ashes covered the bottom. As neither remains nor offerings were found in it, the reasonable supposition is that it was a sacrificial pit for the worship of the dead. Within the rotunda (as in the vaulted tomb at Mycenae last described) there was another pit $7\frac{1}{2}$ feet long, $3\frac{1}{2}$ feet wide, and 3 feet deep — paved, walled and covered with stone slabs. This pit, which we found intact, was a man's grave, and was furnished with a great number of precious offerings, which will be enumerated further on. Similar pit-graves were found in the tholos of another vaulted tomb at Mycenae (namely, at the place called Pera Sphalaktra), but these were neither paved, walled, nor covered. Again, in the circular tholos at Thoricus (see App. D) there have now been found three more pit-graves, one of them covered with slabs and containing a human skeleton; and, in addition to these, two wholly unprecedented quadrangular structures with walls of small stones and clay some 16 inches thick. One of these measures 10 by $5\frac{1}{2}$ feet and is $3\frac{1}{3}$ feet deep; the other measures $8\frac{2}{3}$ by 4 feet and is $4\frac{1}{2}$ feet deep. The first of these is built partly over one of the pits; but, notwithstanding this fact, these sarcophagus-like structures undoubtedly date from the Mycenaean age and served as separate graves for distinguished members of the family. Finally, in the tholoi at Menidi and Demini there are bench-like structures such as we shall find again in some of the chamber-tombs.

The great majority of the beehive tombs had been plundered already ages ago. This is true of the Orchomenos

treasury and the great tombs at Mycenae and the Heraion. Just when the spoliation occurred in any given case we cannot determine; but the indications point to a very early date. Before the doorways of two of the Mycenaean tholoi (namely, the tomb of Clytemnestra and that north of the Lions' Gate) were found vase fragments of the geometrical or Dipylon style which immediately succeeded the Mycenaean. We conclude from this that the original despoilers were the Dorian conquerors of Mycenae themselves, who cut down into the dromos and so effected an entrance by the doorway. By means of a similar device Veli Pasha, then governor of the Morea, is said to have entered and plundered the Treasury of Atreus in 1808, but it seems very unlikely that he was the first to rifle it. On the other hand, the tombs of Vaphio, Menidi, Demini, Kampos, and one at the Heraion were found substantially intact, but only the first two, and more particularly the one at Vaphio, contained valuable offerings.

Like the grave-circle of Mycenae, these tholoi were undoubtedly the sepulchres of royal or noble families, while the mass of the people buried their dead in the less imposing and less costly chamber-tombs. These, with few exceptions, are simple rock-hewn chambers without facing or decoration. Of those now known, the majority, numbering more than sixty, are in the suburbs of Mycenae; but there are many — usually of an inferior class — at Pronoia, near Nauplia, and at Epidaurus; at Halikē, Spata, Brauron, Prasiae and Markopoulo in Attica; at Ialysos in Rhodes; in Crete; and in Cephallenia. Two are known to exist near Amyclae in Laconia, but they have not yet been opened.

Chamber-tombs

With these simple rock-hewn chambers we must class certain constructions found near Volo in the confines of

ancient Pagasae, and described by Dr. Wolters.[1] These are imbedded chambers, some 7 feet square and 5 feet high, built of irregular quarry-stones and covered with large slabs of slate, while three similar slabs serving as jambs and lintel frame the doorway, which narrows upward. The doors seem to have been walled up with loose stones, and there were probably dromoi, but these can no longer be traced — indeed, they could hardly have been preserved in the soft ground in which the tombs are imbedded. As the vessels found in these tombs were all of Mycenaean type, there can be no doubt of their age. Their variation from the ordinary chamber-tomb is probably to be accounted for by the fact that the rock here was not of a kind to lend itself to this kind of quarrying. All the rest of this class of tombs, as we have already stated, are hewn in the rock; still, in the case of a single one at Mycenae, three of the sides were lined with clay walls because there, too, the rock was not firm and had probably begun to crumble while the excavation was in progress.

As already observed, the chamber and vaulted tombs at Mycenae lie outside the acropolis-wall and are grouped in separate cemeteries. That is to say, each of the villages which made up the lower town had its burying ground on the boundary of its own district. Nothing of the kind is known elsewhere, probably because nowhere else have adequate excavations been made.

The approaches to the chamber-tombs are nearly always shorter and narrower than those of the vaulted tombs.

The dromos

Thus, at Mycenae they vary in length from 16 to 79 feet, and in breadth from 6½ to 7 feet. Again, whereas the dromos of the vaulted tomb has vertical sides, those of the chamber-tombs converge toward the top,

[1] *Ath. Mitth.*, 1889, p. 263.

especially before the doorway. Indeed, in some Cretan tombs, as it seems, the dromoi were cut in the form not of open trenches but of tunnels.[1] The floor of the passage is in some cases horizontal, while in others it slopes downward to the doorway; at times, indeed, the inclination is such that steps had to be cut to facilitate the descent.

The doorway is always narrower than the dromos, and (as in most of the vaulted tombs) it was not provided with a door but closed by a wall of loose stones or (at times) of crude brick. Usually, the façade was unadorned, but we have found at Mycenae several tombs which are notable exceptions to the rule. All of these have the door-frame and the sides of the entrance coated with stucco (lime-plaster), which, in the case of three of them at least, was painted in fresco. Two of these were found very much injured, but the façade of the third was in a state of almost perfect preservation. It has been already described, and reproduced (Fig. 16) as an example of a Mycenaean doorway. The façade of another of these Mycenae chambers, found only in 1894, is even more interesting (Figs. 49, 50). The parastades ($8\frac{1}{4}$ feet high) are painted brown, with base and capital in black, while above the lintel (brown) was a row of six disks, and over this a second beam. The restoration is quite

The façade

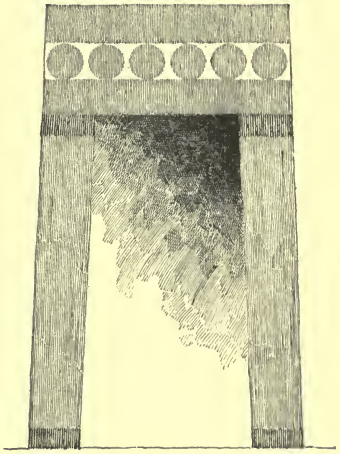


Fig. 49. Façade of Chamber-tomb (restored)

[1] Orsi, "Urne funebri" in *Monumenti Antichi Accad. dei Lincei*, i. (1890), pp. 203 ff.

certain, and we have here an actual example of Mycenaean architecture clearly exhibiting the round ends of the roofing timbers.

As a rule, the tombs of this class are square chambers,

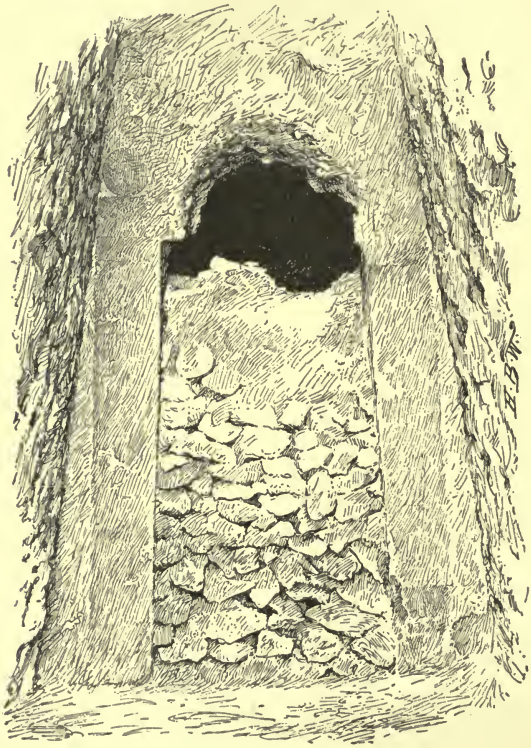


Fig. 50. Same Façade (actual view)

The burial chamber

from 10 by 13 to 13 by 16 feet in area and 6 to 8 feet in clear height; above this the longer walls converge to form a gable roof: more rarely, all four sides incline inward in the form of a hip roof. So far as we know, there is no instance of a rock-hewn tomb with a horizontal roof. We had before noted the occurrence of

chambers approximately circular, with the roof hewn into a rough vault; but now (1895) we have found in a cemetery at Mycenae three circular chamber-tombs hewn out with great care. These show the transition from the tholos to the square chamber, and leave no further room to doubt that the one was evolved from the other. But the square chambers are almost invariably the richer, as shown by the offerings found in them.

Tri-cameral tomb at Spata

The first example of this class to become known to us was the great tri-cameral tomb at Spata in the Attic Midland. The village is built upon a steep bluff whose summit, the villagers declare, was until recently surrounded by the ruins of fortress walls and is still strewn with other prehistoric remains. In the south-western face of this hill, which has a slope of 52 degrees, is a dromos 72 feet long and 8 feet wide leading to the façade shown in Plate XVI. Thence an entrance 10 feet high and 10 feet long, but only $3\frac{1}{3}$ feet wide, leads to the principal chamber, which measures 15 by 20 feet, and has a height of 16 feet. Starting from the inmost corner of this chamber, a passage $6\frac{1}{2}$ feet long leads eastward to a second chamber about half as large as the first; and from this again a like passage leads northward to a third chamber somewhat smaller still. All are hewn out of the soft sandstone rock in the familiar form of dwellings with gable-roofs whose slanting sides overhang the vertical walls some 8 inches, like the eaves of a house; but there is no trace of a door to close any of the chambers, if we except a rebate in the second entrance.

Side chambers

Like the treasuries of Atreus and Minyas, these tombs may have a single side chamber, always smaller and less carefully hewn than the first, and entered by a door which sometimes faces, but is usually to the

right of, the main entrance. In the principal chamber, now and then, square niches are found, hewn as a rule in the right-hand side-wall. In one of the Mycenae tombs the niche is 6 feet long, $3\frac{1}{2}$ feet deep, and 5 feet high. Again, like the vaulted tombs of Menidi and Demini, some of the chamber-tombs have benches along one wall, either built up of poros or cut out in the rock. We do not positively know for what these benches and recesses were designed, but they appear to have served as provisional depositories — like our receiving vaults — for the body and the funeral accessories, or possibly for the offerings to the dead. In the tomb whose façade we have just reproduced, there is a bench running round all four sides. It is 2 feet high and $2\frac{1}{4}$ wide, and built of hewn slabs of poros. Above this bench the walls are plastered to a height of $4\frac{1}{2}$ feet, and this white dado is finished off by an upper border 4 inches wide, composed of three narrow bands of color (red, yellow, and blue).

After this description of the form and construction of the vaulted and chamber tombs, let us now see how the dead were buried in them. As already observed of the tholoi, the chamber-tombs again were family sepulchres: in each of them we find the remains of several skeletons. As a rule, the body was simply laid on the floor of the tholos or the chamber, not covered with earth nor placed in a coffin of wood or stone, of which not a trace has yet been found. However, in the vaulted tomb at Vaphio, as we have seen, there was an individual grave in the form of an oblong pit sunk in the floor of the rotunda, — doubtless the last resting-place of some family magnate, — and similar pits are found in two of the vaulted tombs at Mycenae. In chamber-tombs, also, we now and then find these pit-graves sometimes covered with slabs, as at Vaphio, sometimes simply filled with earth. Their sole

Mode of burial

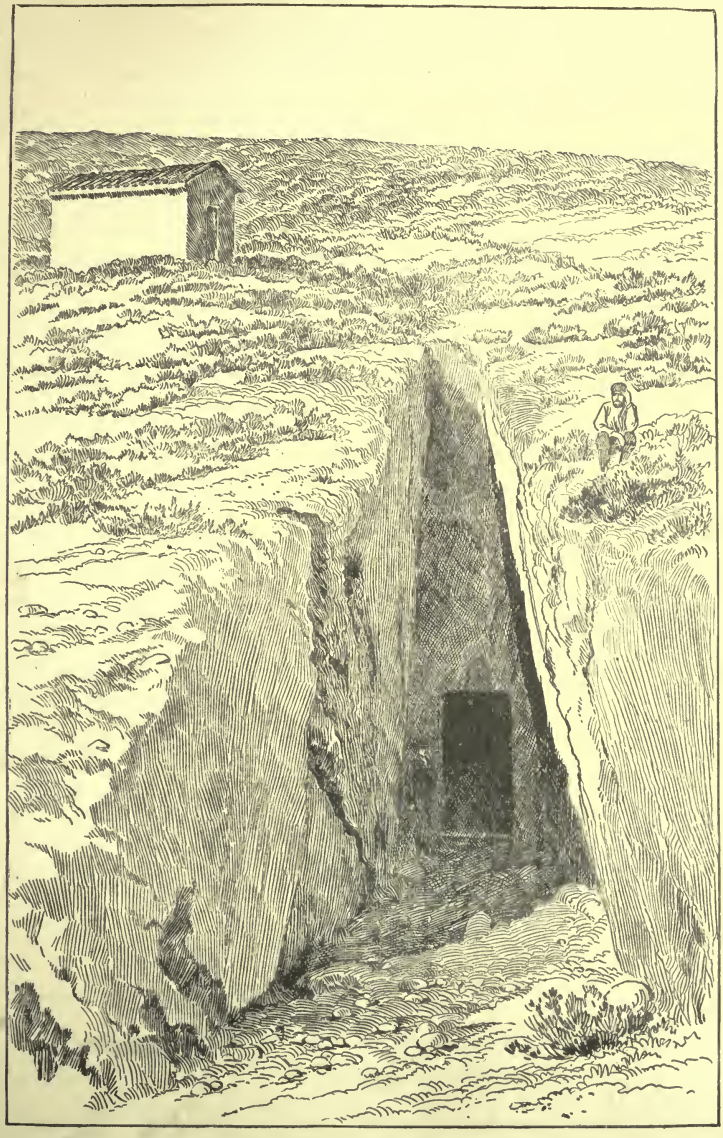


PLATE XVI. TRICAMERAL TOMB AT SPATA

purpose cannot have been the safe-guarding of funeral offerings, for some of them contain no such valuables; rather they are designed to secure an inviolable repose to individuals of peculiar distinction in the family. For repeated observations prove that, as often as the area of the chamber or the tholos became crowded with corpses, the earlier remains were gathered in heaps in the corners, or buried in shallow trenches, so as to make room for new interments. Thus only actual burial within the tomb could prevent the disturbance of the dead and the loss of identity.

The Cretans alone, apparently with greater reverence for their ancestors, gathered their bones at last and deposited them in terra-cotta coffins.[1] These oblong chests occasionally take the shape of a bath-tub or of a dwelling. These latter are of great importance, for thus far they alone reproduce the exterior of the ordinary dwelling of the Mycenaean age, whether in Crete or elsewhere. Their roofs are such as we have assumed for the private houses at Mycenae (see p. 70). Nowhere outside of Crete have such coffins been found.

Funeral urn

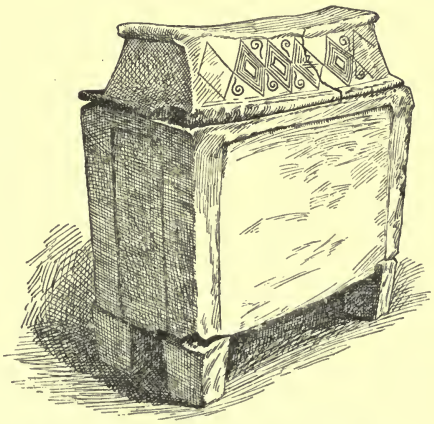


Fig. 51. Funerary Urn. (H. 0.98 m.)

Where the tomb has two chambers, we find human bones in both, showing clearly that the dead were buried in one as well as the

[1] See Orsi, *l. c.* An entire urn and the lid of another, published by Joubin (*Bull. Corr. Hellen.*, 1892, p. 295), are reproduced in our text (Figs. 51, 52).

other. This must be assumed also for the two great tholos-tombs which have the side-chamber (namely, the Treasury of Atreus and that of Minyas), although the opinion prevails that in these the dead were buried in the side chambers only; while the round chamber was a heroön, or chapel for the worship of the dead. This cannot be the case, for the side chamber is quite exceptional, while the round chamber is the family tomb proper, and the offerings to the dead were made in it precisely because it was a tomb. Further, the side chamber at Orchomenos is barely 9 by 12 feet in area, or about the size of the second acropolis grave, in which but one body was buried. Now it is certainly absurd to suppose that the royal family, to which this splendid tholos belonged, had provided for the dead of their whole line a chamber less commodious than even the ordinary rock-hewn tomb. And the same may be said of the Treasury of Atreus. These side chambers were, in fact, separate tombs constructed and decorated so richly for distinguished personages — probably the successive chiefs of the clan (a purpose served at Vaphio and elsewhere by the pit-grave within the tomb), while the round chamber entombed the rest of the family.

Burial in principal as well as side-chamber

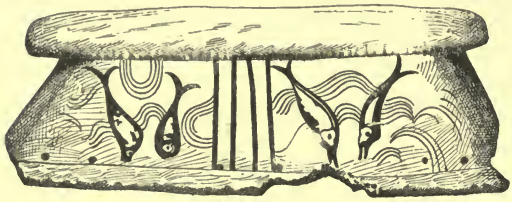


Fig. 52. Lid of Urn. (H. 0.21 m.)

The dead were never burned; at least, thus far we have no conclusive proof of cremation. In nearly all the tombs, indeed, more or less charcoal is found, but some of this is doubtless due to torches; for these

No proof of cremation

tholoi, as well as the chamber-tombs, being lighted only from the doorway, were certainly in need of such illumination. Where charcoal is more abundant, it is due to the burning of victims and other offerings in the tomb.

As regards the orientation of the dead, we have already observed (p. 102) that there is no generally accepted rule — no more, indeed, than in the classical period, — but the usage varied with the locality. Some lie with their faces to the west, others to the east, others to other points of the compass. So of the tombs themselves: façade and dromos look now to the west, now to the north or south, according to the nature of the ground. But the posture of the dead in the grave seems to have been always the same, and that not the one that seems so natural to us. As in the acropolis graves, so also in these, instead of lying at full length, the bodies are seated almost erect.

Posture of the dead

After the burial the mouth of the tomb was closed by a wall, and the entire dromos filled with earth; and as often as a death occurred in the family it was necessary to clear out the approach and reopen the tomb. In the case of the large tombs this certainly involved great labor and expense; but that this was actually done, in all the chamber-tombs and most of the tholoi, hardly admits of further question. Only in regard to the Clytemnestra tomb and the treasuries of Atreus and Minyas, the opinion still prevails which was first advanced by Adler, namely, that their avenues were not blocked up, nor their richly adorned façades hidden in this way. For these tombs — and, we may now add, the one excavated in 1892 to the north of the Lions' Gate — were provided with doors, which (it is said) would have been of no use if the doorways were to be blocked by walls, as were those of the other tombs. But, as we have seen, the doorway of the Clytemnestra tomb

Closing of the dromos

was actually blocked by a poros wall which remained standing till quite recently — a palpable proof that the approaches to the three great tombs mentioned, as well as all the rest, were filled up; and other facts point to the same conclusion. In excavating the dromos of the tomb of Clytemnestra, we observed clear indications that the earth had been brought and deposited there expressly to block up the passage. It is a familiar fact that, in dumping from a higher level, the stones roll to the edge of the mound so formed, while the earth itself stays in the centre. This is just what happened in the dromos in question, and it proves beyond a doubt that the filling was not due to the action of the elements, as assumed. The finds made in the lower strata of the filling confirm this observation, for without a single exception they all belong to the Mycenaean epoch, which could not possibly be the case had the dromos been closed only by natural agencies operating through long ages. It is only at the mouth of the tomb that vase-fragments of the geometric style are found, showing (as observed already) that, immediately after the Mycenaean age, the dromos was opened at this point for purposes of plunder and remained open for some time. Again, there is the poros wall, more than 7 feet high, still blocking the outer end of the passage; what possible purpose could it have served save to retain the filling? For, if we assume that the dromos was an open one, this wall was high enough to cut off the view of the tomb-façade; only at a great distance and, of course, indistinctly could it have been seen at all over the wall. That it was actually, in origin and use, a retaining-wall — a part of the great work of blocking up the tomb — is still further attested by the existence of similar walls, not only in the Treasury of Atreus and the tomb north of the Lions' Gate, but in the tombs of the Heraion, Menidi, and Demini,

as well as many of the chamber-tombs whose passages were undoubtedly filled up in every case.

Where the tombs were provided with doors, it might indeed be assumed that the dromos remained open and the façades visible as long as the families who built them survived, and that only after these became extinct, and their tombs were to be closed forever, were these end walls built and the approaches filled up with earth. But a single fact suffices to overthrow this assumption: at the Clytemnestra tomb the transverse wall, which extends beyond the dromos on both sides, is built in three sections, the length of the central one exactly coinciding with the breadth of the dromos, so that it could be removed (as a gate could be opened), leaving the outer sections standing like gate-posts. This leaves no doubt, not only that the wall was not built after the extinction of the family, but that the further use of the dromos was contemplated; and this positive conclusion regarding the tomb of Clytemnestra is more than probably true of the treasuries of Atreus and Minyas as well. We are, therefore, constrained to believe that even the sepulchres with the most richly decorated façades were, like all the other vaulted and chamber tombs, in the strictest sense subterranean, and that their splendors were displayed only on recurring funeral occasions. For the few days while the dromos was cleared the three splendid tholoi, as well as the fourth one north of the Lions' Gate, were closed by their own doors. Such security was needed, both because it was these tombs that contained the richer offerings and because their occupants, being of royal rank, would undoubtedly lie in state for a longer period, whereas the burial of the humbler dead in the doorless tombs involved less time and ceremony (cf. p. 96). Moreover, as we shall presently see, the vaulted

The great dromos also closed

and chamber tombs conventionally pattern after the abodes of the living; so that the door no more proves an open dromos than the gable roof proves exposure to rain.

Our view is singularly confirmed by the painted façade of the chamber-tomb represented in Fig. 50; for it bears *impressions of stones* rolled down upon the stucco while it was still fresh, and this leaves no doubt that the dromos was filled directly after the door-frame was plastered and frescoed. This façade, of course, is not to be compared in richness and artistic merit with those of the three great vaulted tombs. Rather, we may assume that the rock-chamber belonged to simple burghers, while the "Treasuries" of Atreus and Minyas and the Clytemnestra tomb certainly belonged to royal families. If the former thought it worth while for a few days — so few that the plaster and colors had no time to dry — to spend no little labor in the adornment of their tombs with polychrome designs, the latter could certainly afford their lavish expenditure in enriching their own sepulchres with enduring marble and bronze, even though these were destined for the most part to be buried out of sight. Indeed, had these splendid tombs been always accessible, as it is claimed they were, their rich decorations were still in good part effectually buried; the superb ceiling of Orchomenos, for instance, in a narrow rock-hewn chamber unvisited by a ray of light except for an occasional torch.

Strange as it may seem that these splendid monuments should have been buried in the earth, we must accept the fact as established by the evidence. In our study of a primitive civilization we are not at liberty to discredit all that fails to fall in with our own ideas and feelings; enough that it be consistent with the ideas and feelings of the age in question. The

Real abodes, rather than mere monuments, of the dead

tombs were fashioned, first of all, for the dead, and for the dead they were adorned and stored with offerings of great price. To us this seems a useless waste, as it did to the Greeks of the classic age, in whose tombs we find few precious votives. The Mycenaeans, however, as all peoples at a like stage of development, looked upon it in a different light. To them the future life was only a prolonging of the present, and those who dwelt in splendid palaces in this world craved a corresponding abode after death. Did not these same people think that to insure their comfort in the other world they must take with them some portion of their riches, even slaves to wait upon them? It is true that the older acropolis graves are simple and unadorned, but their wealth of offerings compensated for the simplicity of their construction, while the votives in the later and grander vaulted tombs are neither so numerous nor so valuable. This probably shows that with time the view of the future life had begun to grow somewhat more rational, that is to say, less grossly material. But for this very reason, just because the offerings were on the whole less costly, compensation was found in making the tomb-structures themselves more grand and ornate, for with increasing refinement of taste came a higher appreciation of pure art. And, apart from concern for the dead, the pride of opulent families, who would flaunt their splendor even in their tombs, contributed to the lavish adornment of these sepulchres, in spite of the more or less rare occasion for their display.

Offerings

If the offerings usually found in the vaulted tombs are less valuable than those of the acropolis graves, it must not be forgotten that the four largest and finest of the former (namely, the two "Treasuries," the Clytemnestra tomb, and the tholos north of the Lions' Gate) had been already plundered in antiquity. Among the

others of this class, the Vaphio tomb has proved the richest of all, and that of Menidi comes next. On the floor of the round chamber at Vaphio were found thirteen engraved gems, two gold rings, silver and bronze needles, some smaller gold ornaments, and a few leaves of gold. But the most and finest of the offerings lay in the pit already mentioned (p. 136), and, as they had never been disturbed, it is worth while to describe their arrangement. For in no other vaulted or chamber tomb hitherto has it been possible to note and distinguish so accurately the funeral offerings to a single person, and especially offerings of so great value. This is a matter of course, when we remember that the dead were ordinarily laid on the floor of the rotunda or chamber, where they rested until their bones had to be removed to make room for other bodies. The offerings were naturally carried away with the bones; and indeed, in the crowding of the bodies, these offerings must have been more or less mixed up from the first. But it was not so in the Vaphio tomb, for after the burial the pit was covered with slabs which remained intact until the day we removed them. We found no bones, for they had long ago mouldered away, but everything went to show that the body had lain with the head to the west, just as the Greeks bury their dead at the present day. Doubtless this was only that the dead might face the door of his tomb, which happens to front the east; at least during the *prothesis* or lying in state, it was the custom from Homeric times for the dead to be laid upon the bier facing the vestibule.[1] Near where the head had lain were two bronze vessels (one of them a sort of skillet, possibly for sacrificial uses); a bronze sword, 3 feet long; two spear-heads; seven bronze knives; the bronze

from the Vaphio tomb

[1] *Iliad*, xix. 212.

sceptre-sheath described on page 168; a large bronze spoon; a mirror disk; ten smaller disks of five different sizes, probably making up five pairs of balances; five leaden disks (possibly used as a sort of currency in trade); two stone basins; two alabaster vases, with a little silver spoon in one of them (Fig. 76); two terra-cotta vessels; and three other terra-cottas which look like lamps. All these objects were disposed as if to form a pillow for the head. Where the neck and breast must have lain, we found some 80 amethyst beads, with two engraved gems, apparently forming a necklace of two chains. On the left lay a gold-plated dagger, and in the middle of the grave a silver cup with a gold-plated rim. At either hand lay two more cups, one of silver and one of gold: the latter are the now famous Vaphio cups, reproduced and described on page 227. So at either hand lay a heap of twelve engraved gems, — the two heaps obviously once forming a pair of bracelets, — with three more silver objects, including an ear-pick, and three rings, one of gold, one of bronze, and one of iron. At the foot lay a bronze knife, two bronze axes (including the remarkable one reproduced in Fig. 94), and four more lead disks.

From the sword, dagger, knives, spear-heads, axes, and staff, it is evident that the grave was that of a man, but of a man who wore ornaments usually regarded as belonging to women.

In the Menidi tomb, again, were found many trinkets, principally of glass paste; various objects of ivory, among them a box carved with animal figures; six engraved gems, etc. The rest of the vaulted and chamber tombs have yielded ornaments of much the same kind, — trinkets of gold and glass paste; gold leaves; ivory combs, boxes, plates and bands with reliefs of men or animals; engraved gems;

necklaces; beads of glass, stone, and (rarely) amber; vessels of terra-cotta, occasionally of bronze, very rarely of silver (notably the silver cup inlaid with a band of gold heads, Fig. 117); bronze knives; few spear-points, but plenty of arrow-heads (the latter often of stone); bronze handles; brooches; gold and (in three or four instances) iron rings; mirrors; razors; idols mostly of terra-cotta, but now and then of bone or metal, notably the two lead statuettes from Kampos, and the like.

Relative age of tombs

While the vaulted and chamber tombs are coeval, they are both undoubtedly later[1] than the graves on the Mycenaean acropolis. Accordingly, in drawing the line between the earlier and the later Mycenaean age, we rest mainly on this difference of date, which is established by a simple enumeration of the offerings. The Vaphio tomb was undoubtedly a rich one, but the offerings found in it were far less valuable than those of the acropolis graves. Notably, the great bronze caldrons are wanting, and with them the gold-leaf trinkets. Again, in no tomb of this class have engraved gold beads been found. In the acropolis graves, on the other hand, we rarely find engraved gems (such as were picked up by the dozen at Vaphio); or ivory and glass paste ornaments; or terra-cotta idols (which so abound in the later tombs); and we never find in them a fibula, mirror, or razor. The absence of razors is in keeping with the testimony of the gold masks that the men buried in those graves had not been in the habit of shaving.

Of other differences two are of special importance, though probably without any bearing on the chronology: in the chamber and beehive tombs there is no trace of embalming

[1] Cf. Leaf, Introd. to Schuchhardt, p. xxiv. Petrie (*Journ. Hellen. Studies*, xii. 199 f.) holds that the great treasury tombs antedate the grave circle.

and no masks have been found. Noteworthy, too, is the total absence of swords in the chamber-tombs. In not one of the sixty odd chamber-tombs at Mycenae has a single sword been found, and spear-heads in only one. This is certainly no mere chance, nor can we assume that all the weapons were removed by the survivors. Still it is quite probable that, as the tombs were reopened for new interments from time to time, the more valuable offerings previously deposited were thus taken away. Two facts go to show this: first, we often find fragments which apparently belonged to larger objects of metal, no longer found in the tombs; and, secondly, whenever bronze vessels have been found, they were almost always concealed in pits. This spoiling of the tombs is an indication that the prosperity of the Mycenaean people was no longer at high tide.

Some of the offerings appear to have been purposely broken before they were deposited and the fragments scattered, for pieces of the same vessel are often found in different parts of the same tomb and even in the dromos. Again, in the pit-grave within the rotunda at Vaphio (as noted) there were two spear-heads; and if the spears were placed there (as is probable) shaft and all, they must first have been broken, the pit being every way too short for them. We know, moreover, that the Greeks in later times often broke their offerings, and then threw them in or about the grave.

Much more rarely the offerings show traces of fire, although, we repeat, the charcoal in the tombs comes mostly from the piles whereon were burned, in honor of the dead, not only victims but clothing and the like, as we infer from the almost constant presence with the coals of trinkets and toilet accessories. The fact that these objects are not consumed shows

Burnt offerings; raiment

that the pyres were usually slight, and intended only to consume the cloth. The custom of burning raiment, which the dead were thought to take with them, prevailed throughout antiquity, and is illustrated by the familiar story of Peisander, the Corinthian tyrant, and his dead wife Melissa.[1] "He had sent messengers into Thesprotia to consult the oracle of the dead upon Acheron concerning a pledge which had been given into his charge by a stranger, and Melissa appeared, but refused to speak or tell where the pledge was. 'She was chill,' she said, 'having no clothes; the garments buried with her were of no manner of use, because they had not been burnt.' When this message was brought him, he straightway made proclamation that all the wives of the Corinthians should go forth to the temple of Hera. So the women appareled themselves in their bravest, and went forth as if to a festival. Then, with the help of his guards, whom he had placed for the purpose, he stripped them one and all, making no difference between free women and slaves; and, taking their clothes to a pit, he called on the name of Melissa and burnt the whole heap. This done, he sent a second time to the oracle; and Melissa's ghost told him where he would find the stranger's pledge." The Mycenaeans seem to have shared this faith and practice.

For the funeral sacrifices, we have evidence in the charred bones sometimes found in the vaulted and chamber tombs. These are the bones of burnt-offerings, for we know that the bodies of the dead were not burned. In the doorway of the Vaphio tomb, as we have seen, was a deep pit never occupied as a grave or otherwise. It was doubtless a sacrificial pit: over it the victim's throat was cut, that the blood-offering might stream

Blood and drink offerings to the dead

[1] Herodotus, v. 92, end.

through it to the dead beneath; and into it were doubtless poured other libations dear to the dead, such as Odysseus offers in that weird underworld scene which throws so strong a light on the whole subject. Sent by Circe to consult the soul of Teiresias the seer, he has reached the bourne:[1] "There Perimedes and Eurylochus held the victims, but I drew my sharp sword from my thigh and dug a pit as it were a cubit in length and breadth, and about it poured a drink offering to all the dead, first with mead and thereafter with sweet wine, and for the third time with water. But when I had besought the tribes of the dead with vows and prayers, I took the sheep and cut their throats over the trench and the dark blood flowed forth; and, lo! the spirits of the dead that be departed gathered them from out of Erebus. Then did I speak to my company and command them to flay the sheep that lay slain by the pitiless sword, and to consume them with fire, and make prayer to the gods, to mighty Hades and to dread Persephone, and myself I drew the sharp sword from my thigh and sat there, suffering none of the strengthless heads of the dead to draw nigh to the blood, ere I had word of Teiresias." Before but gibbering ghosts, flitting shadow-like, on drinking the blood they recover consciousness and recognize Odysseus; for the blood is life.

The pit in the Vaphio tomb was used only at burials, when the passage would be cleared. But the libations of wine, honey, and milk, and the slaughter of victims over the sacrificial pit — all indispensable to the well-being of the dead — did not cease with the solemn funeral. These rites were observed not only on special occasions, but also at fixed times, namely, — if we may carry back so far the known usages of historical Greece, — on the third, ninth,

[1] *Odyssey*, xi. 23 ff.

and thirtieth days after death, and annually thenceforward. That these rites were kept up at the Royal Sepulchre of Mycenae is proven by the circular altar, which is nothing but a *raised* pit. As no such structure has yet been found in connection with any vaulted or chamber tomb, we must assume that the libations there were poured into pits dug for the purpose, — perhaps in the earth that blocked the dromos before the doorway, — as was doubtless the case on the Mycenaean acropolis after the Fourth Grave with its altar had been covered by the *tumulus*.

The funeral feast

In Homer the funeral feast — either before or after the burial — is indispensable. Thus, beside the still unburied body of Patroclus, the people sit down to a banquet which Achilles provides by slaughtering so many oxen, goats, sheep, and swine that "the blood streams all around the corpse in cupfuls," [1] a phrase suggesting the dead man's pleasure in the red libation. That these feasts were customary in the Mycenaean age is evident (as we have observed) from the litter of bones about the acropolis graves. In case of the vaulted and chamber tombs, the bones of animals are found especially in the dromos before the doorway. Hence we had inferred that here the banquet was spread, pending which (it may be) the rotunda door would be open so that the dead man lying in the chamber might share the feast after a fashion, as did Patroclus. But later observations (1895) go to prove that the funeral feast was held, not in the dromos, but on top of the tomb, before the entrance was closed and the dromos filled up, so that the leavings would naturally fall or be flung down into it.

Following up Homeric parallels, we observe that Achilles, when he burns his comrade's body, — not content with

[1] *Iliad*, xxiii. 28–34.

holocausts of sheep and oxen, and horses and dogs, to garnish the great pyre a hundred feet square, — adds a yet sterner sacrifice. "And twelve valiant sons of great-hearted Trojans he slew with the sword, — for he devised mischief in his heart, — and he set to the merciless might of the fire to feed on them." [1] This awful immolation is never mentioned without some sort of an apology: "because of mine anger at thy slaying," the hero himself puts it, in his address to the dead; but in fact he is only following a primitive custom. Apparently it had now gone out of use and memory, so that the poet, borrowing here from an earlier lay, feels the need of accounting for the act. A like usage prevailed among other peoples related to the Hellenic stock, and must be assumed for the Mycenaeans as well. We have already spoken of the human skeletons found in the *débris* above the acropolis graves, and not infrequently bodies are found buried in the passages of the chamber-tombs. Indeed, in one of these, six entire skeletons lay crosswise before the doorway at different depths. As indications go to show that all were buried at one time, we assume that they were slain on purpose to accompany their master to Hades, for it is certainly improbable that six slaves or captives — and such they must have been to be excluded from burial in the chamber — should have simultaneously met a natural death. The woman buried in the dromos of the Clytemnestra tomb must have been a slave, and one highly prized. For, while as a rule there are no offerings with the other bodies buried in these passages, this grave yielded two bronze mirrors with richly carved ivory handles (see p. 186), as well as several small ornaments of gold. This pit-grave, which is without either covering or revetment, is cut directly in the dromos-

Immolation of victims

[1] *Iliad*, xxiii. 175–177.

floor, showing that the work was done while the passageway was clear. Now we can hardly believe that the dromos was cleared merely for the burial of a slave, and so we infer that the woman's death was coincident with that of some one of the master's family. May we not go a step farther and venture the surmise that she was a favorite slain to follow her master to the underworld?

Further, as Achilles slays four strong-necked horses and two house-dogs and flings them on Patroclus' pyre, these animals, too, being essential to the dead man's comfort and dignity in the other world, so we note that the entire skeleton of a horse is reported to have been found in a tomb at Pronoia. So in the tomb at Vaphio we found the teeth of several dogs, and two or three like finds have since been made in graves at Mycenae.

Finally, we remark that but three tombstones have been thus far found about the vaulted or chamber tombs. Of these the two first discovered were not *in situ*, but built into the wall blocking the doorway of a shabby tomb. One of these is quite plain; the other (Fig. 53) is carved with curvilinear decorations on the face, and chevrons on the side. The third stele, re-

Absence of tombstones

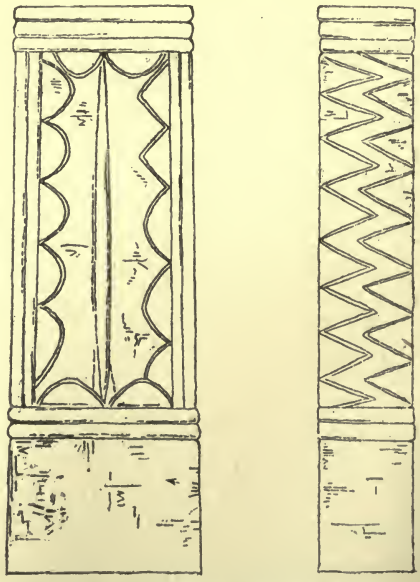


Fig. 53. Tombstone (front and side)

cently discovered, is *plastered* and *painted*, but unfortunately it is not yet cleansed, and we can only make out that the paintings are disposed in bands, and represent animal and (possibly) human figures as well as merely decorative designs.

Now, as Homer regards the stele or some other monument as part of the due of the dead,[1] and we find the acropolis graves actually marked by them, we can hardly believe that the Mycenaeans just between these two epochs dispensed with them. We may surmise, then, that as a rule they set upon their graves, not artistically wrought pillars, but simply large unwrought stones which are no longer distinguishable from the mass. Even the trunk of a tree may have served the purpose on occasion, like that one in the Trojan plain which Achilles turned to use as a goal in the chariot-race at Patroclus' funeral.[2] "A fathom's height above the ground standeth a withered stump, whether of oak or pine: it decayeth not in the rain, and two white stones are fixed on either side thereof. . . . Whether it be a monument of some man dead long ago, or have been made their goal in the race by ancient men, this now is the mark set by fleet-footed, goodly Achilles." Elpenor's grave is marked by both wood and stone:[3] "But when the dead man was burned and the arms of the dead, we piled a cairn and dragged up thereon a pillar, and on the topmost mound we set the shapen oar." The oar is as distinctive here on the sailor's grave as the chariot relief over the royal tombs, but the "pillar" (στήλη) is to be taken, under the circumstances, as nothing but a rough boulder.[4]

[1] *Iliad*, xvi. 457; cf. xvii. 434 f.

[2] *Iliad*, xxiii. 327 ff.

[3] *Odyssey*, xii. 14 f.

[4] Some editors (as Kayser-Faesi) curiously take the oar itself as the stele (apposition).

We cannot conclude this chapter without a word on a question much debated since Schliemann uncovered the Royal Tombs, but not yet settled to everybody's satisfaction. As we have already said, the nineteen persons buried in those graves obviously did not expire at one and the same time; and this of itself overthrows the theory of Schliemann, who believed that he had discovered the graves of Agamemnon and his followers, butchered wholesale by Aegisthus and Clytemnestra. That they are the tombs of a royal line is beyond a doubt, but the name of that line we can no more determine than we can tell those of the families which fashioned the great domes. Whatever hypothesis be put forward, it must always remain pure conjecture. It is another question, however, and the only one that concerns us here, whether the six graves of the acropolis are those which Pausanias mentions as the graves of Agamemnon and his suite. The passage[1] runs as follows: "Among the ruins at Mycenae there is a spring, called Perseia, and also underground structures belonging to Atreus and his sons, where they kept their treasures. There is the tomb of Atreus, and of all those whom Aegisthus slew at a banquet on their return with Agamemnon from Troy. Cassandra's tomb, indeed, is disputed by the Lacedaemonians about Amyclae. There is, further, Agamemnon's tomb, and that of Eurymedon, his charioteer, and the joint tomb of Teledamos and Pelops, the twin children (as they say) of Cassandra, whom Aegisthus slew with their parents while they were yet babes." Here some words relative to Electra have fallen out, and then Pausanias goes on: "For Orestes gave her in marriage to Pylades. And Hellanicus adds that Medon and Strophios were the children of Pylades and Electra. But

Pausanias and the Mycenaean tombs

[1] Pausanias, ii. 16.

Clytemnestra and Aegisthus are buried a little further from the wall, for they were deemed unworthy of burial within where Agamemnon himself lay and those who were slain with him."

Here Pausanias mentions underground structures used as treasuries, and several tombs, most of them within the wall, two further off or outside. The exact number of these tombs is unknown, because of the lacuna in the text, but if we assume (as the sense seems to require[1]) that there was mention of two more tombs, one for Electra and another for her children, then there are nine in all, and two of these without the wall. The question now is, what wall does Pausanias mean, the citadel or the city wall? If the former, as Belger maintains, then the seven graves in which Agamemnon and his comrades were believed to be buried lay within the acropolis, but the only graves in evidence there were those within the circle; hence it must be these he means. It matters little that the numbers do not agree, for the graves had been covered with the tumulus, and could no longer be counted.

If, on the other hand, it is the city wall which Pausanias here has in mind, it may be assumed, as many do assume, that he is speaking of the domed tombs outside the citadel, for these alone appear fit for princes. Not the "beehives" But in the first place their number as now known, namely, eight, does not agree with Pausanias' data; secondly, only three of the eight are within the town wall, the remaining five outside; thirdly, in this very passage Pausanias mentions treasuries of Atreus and his sons, intending thereby undoubtedly these very domes. This is clear from his characterizing them as *underground structures*, and from the

[1] See Belger, *Berl. Philol. Woch.*, 1891, p. 1122, and *Myken. Lokalsage*, p. 22.

fact that he calls the kindred structure at Orchomenos the Treasury of Minyas. Finally, and this argument of Belger's is a very strong one, — the vaulted tombs lie scattered over so wide an area that we cannot suppose them to have given rise to the tradition handed down by Pausanias, — a tradition certainly due to the existence of a group of tombs whose real history had been forgotten. Had they been scattered like the vaulted tombs, it would hardly have occurred to anybody that one of them was the grave of Agamemnon, while in the rest — remote from it and from each other — were buried the persons who had been slain with him, namely, his charioteer Eurymedon, and Cassandra with her children. The graves of the acropolis, however, lie in such proximity as to favor the hypothesis that the people buried in them had perished together by a common fate.

Origin of Pausanias' tradition

Belger [1] further aims to show that the tradition came to take just the form in which Pausanias has handed it down, from the presence of the nine tombstones which Schliemann has actually found. According to the probable restoration in the text of Pausanias, there were nine persons buried within the walls, — Atreus, Agamemnon, Eurymedon, Cassandra, Teledamos and Pelops, Electra and her two children. He conjectures, then, that Atreus, Agamemnon, and Eurymedon were supposed to be buried in the fifth tomb, marked by the three stelae whose reliefs represent men mounted on chariots; that the prophetess Cassandra was buried in the second grave above which stood the stele carved with snaky bands, recalling the fable (common to her with other seers) that serpents had cleansed her ears when she was a child; while under the five unsculptured stones lay persons of less con-

[1] *Mykenische Lokalsage.*

sequence or without distinguishing attributes, — namely, Electra with her two children, and Cassandra's twins.

Clever as this conjecture certainly is, we cannot accept it as it stands, for reasons already stated in discussing the grave-circle and the position of the stelae. Besides, to the nine stones discovered by Schliemann must be added a tenth, which Stamatakes subsequently found on the sixth grave. Nevertheless, we consider it very probable that the tombstones placed *upon the tumulus*, which certainly differed but little in their designs from those actually recovered, did in fact contribute to the development of the tradition in this form. Pausanias, who made the tour of Greece in the second century of our era, makes no mention of tombstones; but the tumulus probably still retained its form, and perhaps the tradition was still current among the Mycenaeans that Agamemnon was buried there. Still, it is highly probable, as Belger holds, that the traveler pieced out his information, obtained by word of mouth, with data from an older writer, *e. g.* Hellanicus, who lived in the fifth century B. C., and whom he actually quotes in this connection. Pausanias, indeed, does not say that the graves were covered by a tumulus, but this does not signify when we remember that to him the famous tumulus at Marathon is simply a *taphos*, or grave.[1]

To conclude, then, we cannot name the families to whom belonged the graves of the acropolis and the great domed tombs outside. But we do know that many centuries later there was current at Mycenae a tradition, certainly mistaken, that the largest and the finest of the domed tombs were the

[1] "There is a *grave* of the Athenians in the plain, and on it are *gravestones* bearing the names of the dead according to their several tribes." i. 32. Again, i. 29, he uses for the same tumulus, as covering many dead, the plural *taphoi*: "for these (who fell at Marathon) have their graves upon the spot because of their valor."

treasuries of Atreus and his sons, and that within the acropolis were buried Atreus and Electra, with Agamemnon and his followers, foully done to death by Aegisthus and Clytemnestra.

PLATE XVII. LEAD STATUETTE FROM KAMPOS

CHAPTER VII

DRESS AND PERSONAL ADORNMENT

After our study of the Mycenaean fortress and dwelling and of the tomb, — that real compendium of an ancient people's life, — we may now see what the monuments have to say of Mycenaean dress. Hitherto we have looked to Homer and the slight archaeological notices of the historians, along with the works of classical art, for our notions of the primitive garb of the Greeks; but these were sources of doubtful character and beyond any scientific control.

Now, however, we possess a great mass of actual Mycenaean jewelry — entire toilets, we might almost say, as well as contemporary art representations, in the round, in relief and intaglio, in vase and fresco painting — of men and women, from the rudest to the most refined stage of Mycenaean culture. These enable us to trace the evolution of dress from the primitive Aryan breech-cloth to fashions which at least foreshadow the elegance of Ionian Greece. This observation, indeed, applies rather to the women, — the gentleman in full dress being very little in evidence, except as the sumptuous funeral outfit speaks for him.

Our data

One monument — the famous siege scene on the Silver Vase — shows us Mycenaean warriors in a state of absolute nudity defending their fortress walls with bow and sling; but this can hardly be typical of every-day life. We have a truer starting-point for our study in

The Loin-Apron

the lead statuette found (1890) by Dr. Tsountas in a bee-hive tomb at Kampos in Laconia, and here reproduced in full size, front and back views (Plate XVII.). Whether this be taken for an idol or an athlete, it certainly exemplifies the elementary costume of the race. The breech-cloth, or loin-apron, drawn between the legs and girded at the waist, is too sharply defined to require any description. This simple costume recurs again and again, notably on the Vaphio cups, where, however, the men's aprons appear to hang free from the belt. So on a solid red jasper ring (Fig. 54), found in 1892 at Mycenae and now first published, we have a clouted man holding at arms' length two lions, one by the throat, the other by the heels. But in this case the belt-ends hang down almost to the man's knees, and the apron-costume is supplemented by greaves strapped at knee and ankle, and by sandals turning up at the toes. Other variations are shown in two bronze idols (Figs. 55, 56); and on some monuments — witness the lion-hunters on the inlaid dagger-blade (Fig. 89) — they take the form of bathing-drawers pure and simple.

Fig. 54. Jasper Ring

This apron, now, is undoubtedly the primitive, and must have long remained the sole garment of the Mycenaean man, except as the cold compelled him to add the *chlaina*, or cloak, which was often nothing but the hide of a beast thrown over the shoulders. The apron leaves the limbs free play, and so we find it generally worn by men, not only in the Mycenaean age but even on occasion by the later Hellenes, as well as by the Romans and the peoples of Northern Europe.[1]

[1] Cf. Studniczka, *Beitr. zur Gesch. der alt-griechischen Tracht*, p. 31 ; Daremberg et Saglio : *Dict. des antiquités s. v.* cinctus ; and Sophus Müller, *Die Nordische Bronzezeit*, p. 106.

Decidedly later, and clearly of Eastern origin, is the *chiton*, or shirt, a cut and sewn linen garment which fits like an onion peel,[1] in sharp contrast with the mere web of woolen girt about the loins as an apron or thrown over the shoulders as a cloak. We must regard the

The Chiton

Figs. 55 and 56. Bronze Statuettes

chiton as supplanting the apron by slow degrees, as foreign fashions are wont to work down gradually from the prince

[1] *Odyssey*, xix. 233.

to the peasant. On the great Warrior Vase from Mycenae the new garment is excellently shown. It is worn alike by the six warriors we see sallying forth to battle and by the four in actual combat on the other side of the amphora (Plate XVIII.). The chiton is partly covered by a coat of mail (*thorax*); but we see the long sleeves reaching to the wrists, and the fringed extremities falling below the hips and recalling the tasseled chiton of Homer.[1] Again, in a wall-painting found at Mycenae in 1892, we have a man wearing a pale-yellow chiton, but with very short sleeves (Fig. 15), — a form repeated in the case of the helmeted warrior at the bottom of the Siege Scene, and in other instances, so that this would seem to be the prevailing fashion.

Greaves

The warriors of the vase, again, wear something like sandals on their feet, and greaves of leather or cloth strapped about the knees and ankles. Such greaves or leggings were worn in peace as well as war. Homer makes old Laertes wear them at his farm-work: "He was clothed in a filthy chiton, with clouted leggings of ox-hide bound about his knees, against the scratches of the thorns; and long sleeves (or mittens) over his hands, by reason of the brambles; and on his head he wore a goatskin cap."[2] To this day the Greek rustics go "well-greaved" (εὐκνημίδες).

The Chlaina

The apron, or the chiton alone, was of course inadequate as an all-the-year-round dress for any but the hardiest. A necessary complement of either was the *chlaina*, or thick woolen cloak, reaching to the knees or even to the ankles and doubtless worn habitually by the elders and in winter at least by the young men. It appears on the two old men just behind the bowmen on the

[1] τερμιόεντα χιτῶνα, *Od.* xix. 242.

[2] *Odyssey*, xxiv. 227 ff.

background of the siege scene. This *chlaina*, which was neither fitted nor sewn, but simply the great thick woolen web as it came from the loom (always red or purple in Homer), was fastened at the shoulder by brooches (πόρπαι), very much like the modern safety-pin.[1] The Brooch Several of these brooches have recently been found in the excavations at Mycenae, so far forth bearing out Herodotus' tale of the prehistoric Athenian ladies who stabbed to death with their brooches the sole survivor of the crew that had gone to Aegina for the stolen Epidaurian *xoana* (v. 82, 87). That was the end of brooch-wearing at Athens, the historian tells us, while the Argive and Aeginetan women forthwith began to wear their brooches half as big again.

These Mycenaean brooches are all of bronze and of three different patterns. Examples are here reproduced. That

Fig. 57. Brooch (1)

Fig 58. Brooch (2)

shown in Fig. 57 is the commonest and earliest of all, while the second (Fig. 58) seems derived from it simply by giving a spiral twist to the end of the bow so as to sheathe the pin. Of this second pattern only a single example has been found, and that in a Mycenaean chamber-

[1] How ornate this might be, we may fancy from the disguised Odysseus' account of himself to Penelope: "Goodly Odysseus wore a thick purple mantle, twofold, which had a brooch fashioned in gold *with a double covering for the pins*, and on the face of it was a curious device, — a hound in his fore-paws held a dappled fawn and gripped it as it writhed. And all men marveled at the workmanship, how, wrought as they were in gold, the hound was watching the fawn and strangling it, and the fawn was writhing with his feet and striving to flee." — *Od.* xix. 225 ff.

tomb together with another brooch of the earlier form and about the same size (some eight inches long). In the Salamis cemetery, Mr. Kabbadias has now (1895) found several bronze brooches resembling the earlier pattern except that the bow is much more bent. Of the third pattern (Fig. 59), Mycenae has thus far yielded but one brooch, to which we have now (1895) to add another from a rock-hewn tomb at Delphi. This pattern, again, was probably derived from the first, from which it differs only in having its bow broad in the middle and narrowing to the ends.

Fig. 59. Brooch (3)

Shoes were evidently no every-day necessity in Mycenaean times, as they were not even in Socrates' day. When sandals are worn, we have seen that they usually turn up at the toes, as is the almost invariable fashion on the monuments of the Hittites.[1] But on this fact by itself we can build no theory of relations — intimate or otherwise — between this mysterious race and the Mycenaeans. For the same peculiarity reappears occasionally even on Greek monuments of the historic period; and, indeed, the fashion was once common in the rest of Europe, as it still is in Greece.

Sandals

The Mycenaeans of the monuments often appear bareheaded as well as barefooted; but the hair, worn long, is sometimes bound by a fillet. Thus the man on the second Vaphio cup (Plate XIX.) has his hair gathered at the back of his neck in a ribbon, or (possibly) a ring, to keep it out of the way. Again, the Kampos statuette seems to show a ribbon wound two or three times

Headgear

[1] Cf. Perrot & Chipiez, *History of Art in Sardinia*, etc., Figs. 284–286, 331–334.

around the head, although this may possibly be taken for a cap made of leather straps stitched together, such as we shall see later on the heads of warriors. But the ordinary cap was a very high, conical affair, of woolen or hide (Fig. 85).

For the rest, we know enough of the male toilet to justify the conclusion that the Mycenaean men were no less fond than the women of personal adornment, and that in that respect their outward appearance was quite Asiatic, not to say barbaric. Thus they wore on their wrists bracelets of gold, — sometimes of precious stones carved with life-like intaglios. In the Vaphio tomb, for example, we found two dozen engraved gems lying in two heaps where the hands of a man's skeleton must have lain. Men wore necklaces of gold, gems, glass, and amber; rings of gold, bronze, iron, and precious stone, and often two or three of them together. Moreover, their garments were spangled with gold-leaf cut out in round disks and stamped with a great variety of designs, while curious gold knee-clasps were used to fasten on the greaves. Several of these clasps of gold — one, at least, still attached to the bone — were found in the graves of the Mycenae acropolis.

Jewelry

In the Vaphio tomb, where had once lain the head of the wearer of the bracelets, we found two alabaster vessels. In one of these vessels there was a small silver spoon, going to show that the vessel may have contained some kind of perfume or ointment. From the same tomb came a bronze mirror before which we cannot doubt the owner of all this finery had been wont to anoint and adorn himself. That is to say, he was a genuine Hellene. Even the rustic and the shepherd in Greece still habitually carries a little looking-glass in his belt. The Vaphio mirror does not stand alone; many more were

Toilet Articles

found in the Mycenaean tombs, and another in a grave at Pronoia near Nauplia. They are uniform in pattern and material, and differ only in the ornamentation of the handle. But these, as well as other articles and ornaments common to the toilet of both sexes, will be discussed when we come to describe the dress of the women.

The Razor

One more article of the male toilet,[1] however, must be mentioned here, namely, the razor. Four of these implements had been found at Mycenae, and now (1895) five more have been found at Markopoulo in Attica, and one in a tomb at Delphi. One of the Mycenaean razors is represented in Fig. 60, another from Markopoulo in Fig. 61. All are of bronze, and, as the reader will see, differ little in pattern from the razor of to-day, except that the blade does not open and shut, — the handle being formed by riveting on to the shank of the bronze a sheath of wood or bone. Actual tests show that the bronze blades take a keen edge and shave clean, though they of course do not wear as well as steel. The monuments teach us that the Mycenaean shaved only the upper lip, in this following a custom prevalent in the ancient East and persisting long afterward in Greece. Thus Plutarch[2] states on the authority of Aristotle that the Spartan ephors, on taking office, annually made proclamation to the citizens "to shave their moustaches and obey the laws." In all probability the Greeks borrowed this custom from the Orientals, and that somewhat late in the Mycenaean age. At any rate it was not till then that it became general. For

Fig. 60
Razor

[1] Perhaps not exclusively so. At least, Athenian ladies in the fifth century appear to have used the razor (Aristophanes, *Eccl.* 65–67).

[2] *Cleomenes*, ix.

on some of the gold masks (Fig. 35), from the acropolis graves, moustaches are clearly indicated, while on the later Mycenaean monuments the men are represented without them, but usually with wedge-shaped beards and long hair. (See Figs. 54, 62.) The hair was not left to fall negligently on the shoulders, but combed and carefully arranged, doubtless with the use of ointments and perfumes, as already noted. This coiffure is illustrated by the Kampos statuette, and still better by the remarkable head reproduced in Fig. 62. This is one of twenty-one heads in gold, forming a band around a silver cup (Fig. 117) from a Mycenae chamber-tomb. These heads show the smooth upper lip, the pointed beard, and the hair arranged in three curls or pig-tails.[1]

Fig. 61. Bronze Razor (Markopoulo)

Fig. 62
Gold Head from silver cup

The costume of the men, at least of princes and nobles, to be complete, required two things more, namely, the sword and the staff. Like Homer's heroes, they certainly wore the sword even in time of peace, as we shall see in the next chapter. Of the staff no example has been recovered entire, although we have remains of four or five. In the fourth of the acropolis graves at Mycenae, Schliemann found "a beautiful golden cylinder," and "a splendid golden handle" (Fig. 63), undoubtedly belonging together, and probably composing the pommel and sheathing of a sceptre. The golden cylinder consists of four-leaved flowers united at their points, each petal

The Sceptre

[1] For a very full discussion of the whole subject of the hair, see Helbig, *Das Homerische Epos*, 236 ff.

being inlaid with a nicely-fitting piece of rock crystal, as were also the spaces between the flowers. The golden pommel has the form of a scaly body, of which each extremity is finished off with a dragon's head. The scales are rendered by bits of rock crystal so nicely fitted to the gold that only one of them has fallen out. This hollow pommel still retains some of the wood with which it was filled. In the same tomb was found in two pieces a second gold cylinder (15.6 inches in length), which appears to have been the sheathing of another staff (Fig. 64). A like cylinder of bronze with transverse fluting, $2\frac{1}{2}$ feet long and about an inch thick and closed at one end, was found in the Vaphio tomb. At the time of the discovery several indications led us to suppose that this was a part of a spear-shaft. There were rivets, namely, piercing clear through the cylinder, fragments of wood left in it, and finally two spear-heads lying near by. More recent discoveries, however, go to show that it was a sceptre. In 1892 we found in a tomb at Mycenae parts of another cylinder — aggregating over twenty inches in length — which, like that at Vaphio,

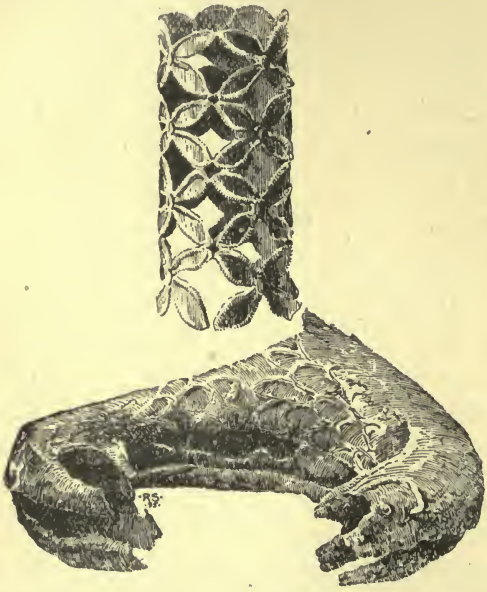


Fig. 63. Dragon-hilt and Sheath of Sceptre (Grave IV.)

had once sheathed a wooden rod. This cylinder had been composed of several sections riveted upon the staff with bronze nails. As one of the fragments is closed at one end, while another terminates in a little gilded knob, the object could not have been a spear, but must have been a rod cased with bronze. In the same year (1892) a small section of a similar cylinder with a knob was found in another tomb at Mycenae. If we recall now how often Homer describes the staff as "pierced with golden nails,"—assuredly not for mere decorative effect,—we can hardly doubt that we have here to do with this badge of heroic authority; and we gain a clearer notion of the Homeric sceptre. We are to think of it as a wooden staff whose metal sheath is fastened on with many rivets, possibly of gold. Such was Agamemnon's sceptre "studded with golden nails," and even this would have been outshone by the dragon-staff flashing with crystals set in gold, which the tombs of Mycenae have given up again.[1]

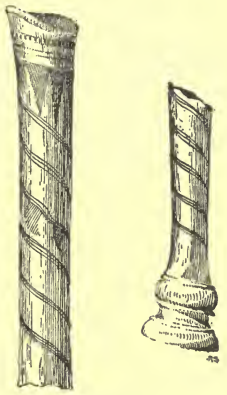


Fig. 64
Sceptre-Sheath (Grave IV.)

Coming now to the women's dress, we have a more difficult subject to deal with. The feminine toilet is always the more complicated, and our monuments are still too few and often too clumsy to give us an entirely clear account of it. Indeed, even the costume of the classical period is anything but fully understood, notwith- Women's Dress

[1] That the regal sceptre was a wooden staff to start with, we see from Agamemnon's oath (*Iliad*, i. 234 f.); and that it might be at once "golden" and stout enough for a cudgel, appears from Odysseus' use of it on the person of Thersites (ii. 265 ff.).

standing the mass of monumental and literary material for its study.

The first monument to our purpose is a gold ring found in the acropolis of Mycenae, near the circle of the tombs (see Fig. 65). Of the remarkable intaglio design on this signet, we have for the present to do only with the female figures. There are five of these, three full-grown, two apparently young girls, — all costumed alike. But there is a greater distinction in the larger women's dress, which is a chiton reaching from the throat to the ankles. It is true that Milchhöfer, who has contributed much to advance the study of Mycenaean culture,[1] holds that the chitons start from the waist, leaving the breasts exposed. Rossbach,[2] however, disputed this, and his judgment has been confirmed by more recent discoveries, notably by a painting on a limestone tablet from Mycenae (Plate XX.). On this tablet the painter has represented two women sacrificing, with accessories which evidently recall those of our signet. The costume of the woman by the altar corresponds closely to that of the women on the ring, but instead of being left white, like the hands and face, "the bosom is painted yellow to match the skirt." The flounces are black, another indication that these were not of a piece with the garment, but sewed on. The chiton, then, was a full dress, but with a noteworthy difference between the upper and lower parts. From the waist it falls rather free, and is relieved with several tucks or flounces, while the

Chiton

Fig. 65
Great Signet (Mycenae)

A Full Dress

[1] In his *Anfänge der Kunst in Griechenland*, Leipzig, 1883.

[2] *Archaeologische Zeitung*, 1883, iii. 170, ff.

space between these in the skirts of two of the larger women is filled with a sort of scale pattern. Over the bosom, however, the garment fits "like an onion-skin," and is quite plain, so as to be readily mistaken for the naked breast. This lack of trimming appears to show that the jacket was of different material from the skirt.[1]

A second instructive design (Fig. 66) is likewise from a gold signet ring. This was found recently (1893) at Mycenae, in a chamber-tomb, along with other notable offerings, e. g., the bronze sceptre with the gilded knob, the ivory handle (Fig. 84), portions of a girdle, etc. On this signet we have three women wearing chitons exactly alike, but differing somewhat from those just described — the skirt being divided into three horizontal sections, of which the two lower are disposed in very thick folds. On the bodice, again, we can distinguish neither ornament nor fold, so that here, too, we might suppose the breasts to be nude. Our third document is an engraved gem from the Vaphio tomb (Fig. 155). The two women in this design are dressed in the same general style, namely, in the plain close-fitting bodice and wide skirt, but each of these skirts shows novel and curious details of trimming. A similar dress, but with interesting variations of detail, appears again on the ladies of the ivory mirror-handles (Fig. 84). These examples, — and their number could be readily increased, — confirm the view that the bodice was, generally at least, of different material from the skirt; but it is not so easy to determine whether

Fig. 66. Seal Ring

[1] These Mycenaean ladies, especially the one seated under the tree, suggest more than a faint adumbration of our "rational costume." But we must take the bifurcation as the artist's effort to express the limbs rather than as a voucher for the prehistoric origin of the divided skirt.

bodice and skirt formed a single garment or two distinct ones. In the latter case there would be the more need of the girdle, which is quite clearly shown, especially on the smaller gold rings. Possibly either fashion may have been followed on occasion; but in any case we may conclude that they were in fact originally two distinct garments, the skirt being the principal one. And thus, by another way round, we arrive substantially at Milchhöfer's conclusion, — namely, that the women's chiton was evolved by a gradual lengthening of the apron. In fact, it is not improbable that the apron formed the primitive dress of the women as well as the men, with the occasional addition of a separate breast-cloth.[1] A transition stage seems to be indicated in the design of a gold signet ring from Mycenae still unpublished. It represents a seated female, apparently a goddess, extending her hand to a man armed with a spear. The woman's chiton is short, reaching only to the knees. This is probably unique among the recovered monuments of Mycenaean art.

Evolved from the loin-apron

Certainly the dress of the women on the great signet is very far removed from the primitive apron and the breast-cloth, as here conceived; but chitons somewhat resembling those of our rings were worn in the Orient (especially in Assyria) from the earliest times, and it is very likely that the fashion there prevalent came — either by way of Phoenicia or of the countries lying still farther north — to exercise an essential influence on the evolution of the costume of the Mycenaean women. Notably, its chief peculiarity — the tucking or flouncing — is characteristic of the chitons of

[1] So in Northern Europe, during the bronze age, the women wore a separate jacket, while the men had, like the Mycenaeans, a short apron and a cloak. Cf. Sophus Müller, *l. c.*

the men and women on the most ancient Babylonian monuments.[1]

The flounces, as a rule, run round the skirt horizontally, though they sometimes describe downward curves starting at the sides and meeting in front. (See Fig. 155.) Some of the monuments show distinctly that these are not of a piece with the body of the garment, for they are usually represented as bands breaking in upon the pattern, and in one case (namely, on the limestone tablet) they are rendered in a different color. We can recall but one instance where the two bands join on to one another so as to fill all the lower part of the skirt. The jacket appears to have had short sleeves, and doubtless opened in front, after the present fashion. At least, our lady of the hairpin (Fig. 67) wears her bodice open between the breasts, and a parting line down the bosom seems to be indicated on the dress of another woman on a Vaphio gem.

Flounces

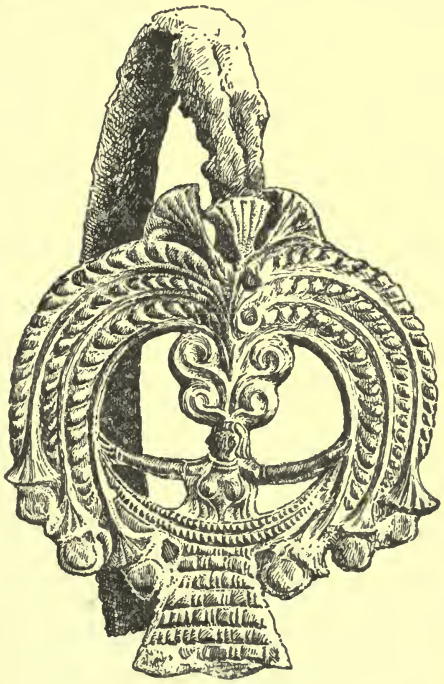


Fig. 67
Silver Hairpin with Gold Ornament (Grave III.).

[1] Cf. Perrot & Chipiez, *History of Art in Chaldaea*, etc., Figs. 124, 150–153; Sophus Müller, *l. c.*

In the tombs we frequently find stone disks very like the modern bone-button, except that they have but one hole. These are commonly called "spindle whorls," but they are so small and occur in such quantities — in 1893 we picked up 160 in a single grave at Mycenae — that it seems more reasonable to take them for buttons. A button with but one hole would certainly not meet our modern requirements; still it could be attached to the garment by means of a strong thread well knotted at the end.

Buttons

The girdle, which we often meet with on the monuments, appears in some cases to have been of metal. At Mycenae, at any rate, in the chamber-tomb mentioned above (p. 171), we found fragments of a gold-plated bronze band, some two inches broad, with spiral ornaments in relief, and holes at the ends by means of which it had once been stitched to cloth, apparently of a violet color. It was probably a man's belt, as it lay near the sceptre; but the women's girdles must have been very much the same.

Girdle

The chiton already described, with its close-fitting bodice buttoning in front and its wide flounced skirt, so singularly like the dress worn by the women of our day, was apparently cut out and made up — flounces, folds, and all — after a definite pattern. It was, indeed, so artistic and complicated that we can hardly take it for a common every-day dress. It was a robe of quality and occasion, rather, and there must have been in contemporary use a simpler and freer garb, more like the primitive type. This would be worn by women of the lower class, and for this reason would figure but rarely on the monuments. The artist, of course, prefers to represent ladies of noble rank in their richer dress. However, the woman on the "Warrior Vase" from Mycenae (Plate XVIII.) wears a looser

Make of the chiton

chiton without flounces; and the dress of the primitive female figures in terra-cotta, which occur in great numbers, especially at Mycenae, is equally simple and unadorned.

The view here taken of the origin of the Mycenaean woman's chiton is supported by our clearer knowledge of the evolution of the men's dress. The apron, as we have seen, together with the chlaina, — often nothing but a wild beast's hide, — constituted the Mycenaean man's primitive wardrobe. And we know that the diversity which now obtains in the costume of the two sexes has come about through a long process of differentiation: the further we trace them back the more we find them assimilating. It is not surprising, then, if, at an epoch anterior to that known to us from the monuments, the costume of the Mycenaean women was an apron which differed from the men's only in its greater length. Naturally, indeed, the bosom would often be covered with a separate cloth. From the union of these two primitive garments, or from a lengthening of the apron so as to cover the bosom, the Doric chiton, too, was probably evolved. For this chiton is nothing but a square cloth covering the whole body from the throat to the feet, but so draped as to meet at the side rather than in front. It was usually girt in at the waist, while below the flaps were either sewn together all the way down or simply joined by a brooch at the thigh. In the latter case the wearer could not move at a brisk pace without exposing the leg. The Spartan maids wore the chiton in this fashion and without any other garment, and so Ibycus dubbed them φαινομηρίδες. Above the waist the cloth was in two breadths, front and back, and these were fastened together by brooches at the shoulder. Thus, of course, the arms were left bare. Whether the Mycenaean women wore clasps in their chitons, or a cloak pinned

Evolution of Dress

on over the chiton, as did the men, we have no means of determining. The bottom of the chiton on the different designs often describes, not a straight line, but a curve opening downwards; but this in all probability does not indicate the cut of the garment, but is a mere convention for representing the circle in which it falls. In the same clumsy fashion we have seen that the artist of the great signet represents the chiton of the three larger women as very like divided skirts.

There is little to show how the Mycenaean woman dressed her feet and head. The great signet leaves us in doubt whether the women wear shoes or only ankle-bands; but on the second ring (Fig. 66) there seems to be no question about the shoes, though all we can clearly make out is that (like the men's sandals) they turn up a bit at the toes. The monuments have as little to say about the head-covering. The women they present to us do not wear hats or bonnets, but only ribbons to bind and confine the hair.

Foot and Head Gear

Of feminine ornaments we are better informed. Naturally the women would not be outshone by the men, and in fact we see from the monuments and the tomb-offerings how they lavished on their persons now jewels of great price, and again trinkets of the cheapest kind. Of the women in Grave III., Schliemann observes: "They were literally laden with golden jewelry." To begin with the head-gear, we observe that the ribbon used to bind and confine the hair was embroidered, so to speak, with gold and other glittering ornaments. In one of the Mycenae chamber-tombs we found disposed about a skull 72 rosettes (37 of them gold, the rest of glass paste), as well as three other small gold trinkets and some 200 round beads of gold and glass. These last may have

Jewelry

Fillet

composed a necklace, but the offerings all lay in such a way that the most of them appear to have adorned the ribbon which was wound several times round the head, the rosettes being in all probability so arranged that the gold would alternate with the glass.

The diadem, too, belonged to a lady's outfit. This is shown in art-representations; in female idols generally; and in the tall women in Fig. 65, who appear to wear diadems with a flower-like crest. In the women's graves (First and Third) of the Mycenaean acropolis, and in the Fourth Grave (probably shared by three men and two women), Dr. Schliemann found a number of these splendid golden crowns. They are usually in the form of an elongated oval gold plate richly ornamented in *repoussé* work. Two of these, which were found still attached to the skull, may be taken as types of all. The first is a thick gold plate of the typical oval form, with a border made up of dotted parallels and spirals, and a central line of bosses varying in size with the breadth of the diadem. These bosses are set in concentric circles of dots and leaves; and smaller bosses relieve the spherical triangles formed by the tangents of the larger circles. In the second (Plate XII.) the oval (25 in. long) is embossed with three rows of circles, which are filled alternately with rosettes and with seven small bosses; the circles of the lower series being separated again by single small bosses, while the upper series is punctuated in a similar way by characters resembling the Greek ϒ and Ψ.[1] This richly ornamented oval is surmounted by a still richer crest composing a sort of garland

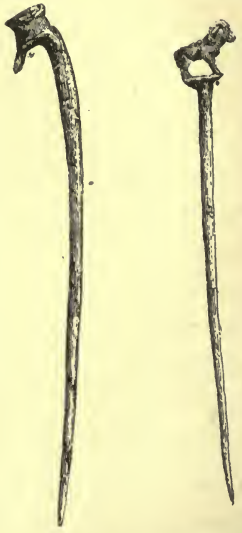
Diadem

[1] The latter appears in four variations, and is clearly the same symbol that recurs so frequently on Mr. Evans' Cretan seal-stones, in both pictographic and linear form. The Mycenaean goldsmith may have copied them without any notion of their significance.

of leaves and flowers, a distinction shared by no other of these diadems. We may infer that it was a royal brow to which it still clung when Dr. Schliemann found it.[1]

The Hairpin

An article of greater utility in the toilet was the hairpin. These were of various patterns and material — gold, silver, bronze — and occasionally of remarkable size. Some of them are wonderfully ornate, for example, that found in the third grave, with the two splendid diadems described above, and taken by Schliemann for a brooch (Fig. 67). It is a very thick silver pin, 8 inches long — entirely too long for a brooch — with a semicircular ornament in gold, within which, as in a swing, is a female figure with outstretched arms. Several simpler gold pins (Figs. 68, 69) were found — also with diadems — in the fourth grave. The excavations at Troy yielded other fine specimens, two of which (both of gold) are reproduced below (Figs. 70, 71).



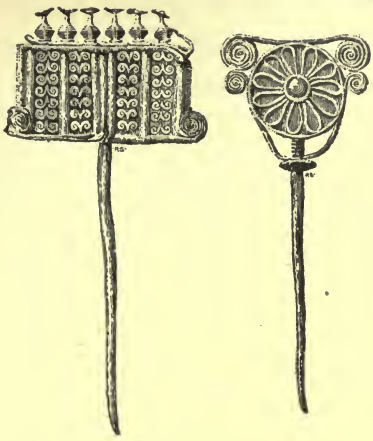
Figs. 68, 69. Hairpins

The comb, too, was worn by Mycenaean ladies. A comb, found by Dr. Schliemann in Grave III., is made of bone, but has the back plated with gold leaf. Its semicircular shape

The Comb

[1] With these we may compare the two barbaric diadems found in the Great Treasure at Troy, and identified by Mr. Gladstone with the πλεκτὴ ἀναδεσμή ("woven band") which Andromache flings from her head in her grief for Hector (*Iliad*, xxii. 468–470). These chain diadems of pure gold — one of them woven of 1,750 double rings and 354 hexagonal leaves, the other of more than 16,000 rings and leaves — must indeed be classed with the crown jewels of an Oriental palace rather than the finery of a Mycenaean lady; and, as we now know, the Burnt City in which they were found belongs to a much earlier age.

shows that it was worn as part of the head-gear, but for other uses there were also straight combs with finer teeth. These were of ivory or bone, occasionally of very hard white baked clay.[1] They often bear reliefs and other decorations, and of course belonged to the men's toilet as well as the women's.



Figs. 70, 71. Gold Hairpins (Troy)

The women's hair usually falls in several long slender braids, or a single heavy one. Sometimes the tress is curled up at the end, as in the ivory (Fig. 72), an effect doubtless assisted by the application of ointment. That unguents were in use, possibly the curling-iron as well, witness the little corkscrew curls which crown this woman's forehead, and which the Greeks so much affected in the age of archaic art.

Coiffure

In the acropolis graves at Mycenae were found several gold ornaments which are thought by some to be earrings.[2] This is not improbable in itself, though we know of no monuments — with a single exception — which represent a woman with rings in her ears. The exceptional case is that of a woman on the mirror-handle (Fig. 82). But all the women on the ivories, this one included, seem distinctly foreign in the arrangement of the

Earrings

[1] *Mycenae*, p. 79 ; figured.

[2] Schliemann, *Mycenae*, Ill. 293, 295, 296 ; Schuchhardt, Figs. 169–171. At Troy gold earrings were found in large numbers, — fifty-six of them together in the Great Treasure, — and in designs of great variety and beauty. (*Ilios*, p. 466 ff. *et passim*.)

hair, and in certain features of the face, — more so, indeed, in the original than in the copy; so that we are hardly warranted in drawing any positive conclusion from them. The chamber-tombs at Mycenae yield the same negative results; nothing like an earring has been found in any of them. Such ornaments, indeed, may have been worn by Mycenaean women, but only by a favored few and on rare occasions. This is all the more remarkable, since in the Orient at the same period earrings were worn even by the men.

But if the women rarely displayed earrings, they certainly wore collars and necklaces. We could infer as much from the like custom of the men, but there is no lack of monumental evidence to bear us out. Thus the woman of the ivory plaque (Fig. 72) wears a collar of triangular beads, with bracelets of the same make; and a terra-cotta shows a triple collar, with double chain depending from it upon the breast. From neither of these works can we determine the material of the beads, but the beads actually found in the tombs are of gold, amber, gems or glass-paste. The amber beads — whose material, as shown by chemical analysis, most probably came from the Baltic — are sometimes as large as a silver dollar. The beads of stone and glass-paste are of varying form — round, oval, and so on.

Collars and Necklace

Fig. 72. Ivory Plaque

Out of the mass we select — chiefly for their unique intaglios — three gold beads from the third grave, as well as several of the gems which are constantly coming to light in other tombs. The gold beads (Figs. 73–75) are rectangular, pierced lengthwise for the string, with both surfaces slightly convex, though engraved as a rule only on one side. One of these intaglios represents a lion in full retreat over rocky ground, the second a man grappling with a lion, and the third two warriors in close encounter. One of these combatants, clad simply in the apron, is thrusting his sword into the throat of his foe, — a man armed with shield and plumed helmet. These admirable works must have been very rare at the best: no

Gold Beads

Figs. 73–75. Gold Intaglios (Grave III.)

other tomb has yielded their like. A pierced gem of the same pattern, rudely engraved with the figure of a horned animal, has now been found at Mycenae (1893). The sole example of this form elsewhere known is from Amorgos, but that is a gem and not engraved.[1]

The engraved gems are mostly lentoid, but often oval, rarely cylindrical. In size they vary: the quarter and half dollar may roughly represent the extremes. All are pierced for the string, and the little aperture is often mounted with gold. The lentoid and oval gems are engraved, as a rule, only on one side; now and then on both. (For typical designs, see especially pages 218 and 225.) From the interest of their subjects and from their

Engraved Gems

[1] See *Ath. Mittheilungen*, 1886, p. 20.

technique, they are often reckoned among the most important monuments of the period. But to the Mycenaean women, and the men as well, — for one example above cited shows that the men also wore them, — they had a further element of value. The stone was certainly prized for its intrinsic quality; for as a rule we find in use only the rarer varieties, namely, agate, crystal, amethyst, sard, sardonyx, jasper, and chalcedony. Owing to the value of the stone, enhanced as it was by the engraver's art, they are rarely found in numbers; and so we infer that it was customary to wear but one or two strung together with less expensive beads. In this respect the Vaphio tomb is exceptional; still, while so many engraved gems were found by the hands of the skeleton there, only two lay at the breast, and these appear to have been strung in a necklace with eighty other plain round beads of amethyst. This was doubtless the rule, and bracelets of engraved gems (such as we find at Vaphio) must have been very rare. These gems have been and still are called "island-stones," — a designation due to the fact that the earlier known examples were chiefly from the islands of the Aegean (Melos, Crete, etc.); but this name can no longer justify itself, now that the most numerous and finest specimens have recently been found in the centres of Mycenaean culture. Accordingly it has been proposed[1] to name them "Mycenaean stones," although their fabrication certainly outlasted the Mycenaean age.

Glass-paste Gewgaws

Of these stones we sometimes find imitations in glass-paste, engraved like the gems, but these are of slight importance now, owing to the very imperfect state in which they are preserved; and there is no doubt that even in antiquity they were comparatively little prized. For not only did the material yield more readily to the

[1] By Perrot, *Bull. Corr. Hellen.*, 1891, p. 518.

engraver's tool, but it must have grown quite cheap before the end of the Mycenaean age. Hence it came to be the common material for ornaments, collars, necklaces, and the like. That these were produced here is sufficiently attested by the very fact that they are copies of the gems. Cheap as glass beads must have been, it would seem that there were women who could not afford even these, and so contented themselves with still cheaper ones. Thus in a Mycenaean chamber-tomb were found 50 sea-shells, 34 of which had been pierced and strung, evidently to form a necklace.

Rings and bracelets were common to both sexes. The bracelet was worn about the wrist or farther up the arm: on the women in Figs. 66 and 155 it appears at the elbow. Even anklets seem to have been in

Bracelets

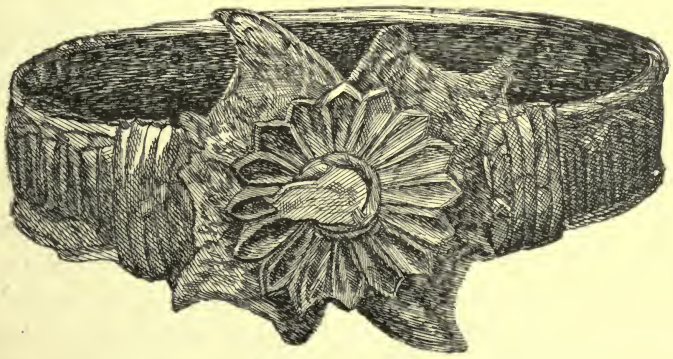


Fig. 76. Gold Bracelet from Grave IV. (size of original)

occasional use. A massive gold bracelet adorned with a splendid rosette, found in Grave IV., is here reproduced.

The rings, as already remarked, are of various materials, — gold, bronze, iron, precious stone. Many of them are too small for any but a child's finger, and must have served mainly as signets. In pattern they

Rings

are very much alike, — a more or less simple circle, with an oval bezel always bearing an engraved design. Such are the gold rings (Figs. 65, 66) and a jasper ring (Fig. 54) found at Mycenae in 1892, and described on p. 160. Another example is "a finger-ring cut out of a splendid white onyx," with a lifelike though very archaic representation of two cows with their calves at the udders. It was found by Schliemann in 1876, and is particularly described by him.[1] Of other patterns we have but two rings worth mentioning (Figs. 77, 78), both of gold and both from the Vaphio tomb. The bezel of one of these (Fig. 77) seems to have been filled with glass-paste, now lost. In the other (Fig. 78) the bezel is replaced by a rosette, which is inlaid — as is the ring itself — with blue and violet glass-paste in regular alternation. These two rings prove that the Mycenaean goldsmith had learned to diversify his seal with a different material; and it is all the more surprising that not a ring has yet been found set with a real stone, either plain or engraved.

Fig. 77. Ring

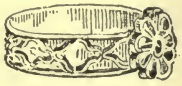


Fig. 78. Ring

The dress of women, and of men as well, was spangled with gold. In the third tomb, occupied by three women, Dr. Schliemann found over seven hundred "large, thick, round plates of gold, with a very pretty decoration of repoussé work." Of these there are fourteen different designs, — partly geometrical, as circles, wave-lines, and spirals; partly natural, as flowers, cuttlefish, and butterflies. Though none of these are pierced, or show other traces of fastening, they can only have been used as dress trimmings. Schuchhardt conjectures that "they may

Gold Dress Trimmings

[1] *Mycenae*, p. 131 f., and Fig. 175.

have been fixed on the garments with some kind of glue." Besides these disks, there were found in the same tomb numbers of figures in gold plate destined to a similar use. These include images of female divinities, — as Aphrodite (Figs. 38, 39), and, apparently, Cybele (Fig. 79). They are usually pierced with holes for the thread. In the second (Cybele) image the points between the tucks may represent disks, such as were actually found in so great numbers in the same grave with it. With these disks and idols Schliemann found many animal-figures, — stags, griffins, lions, eagles, swans, and the like, — usually in pairs, heraldically opposed, but sometimes singly (Fig. 80). As a rule these figures have two to four perforations for fastening them to the drapery. In other graves were found ornaments destined to the same use, but made of glass-paste, sometimes with pendants of gold-leaf hanging by delicate wires. The vibrations of these as the wearer moved would enhance the brilliant effect of the dress. Similar pendants occasionally go with the golden ornaments also.

Fig. 79. Gold-leaf Image (Grave III.)

Fig. 80. Gold Plate from Grave III.

It remains to say a word about certain articles of the toilet. Combs and unguents we have already mentioned; and we may add that in some of the chamber-tombs of Mycenae were found small bronze vessels in all probability belonging

Fig. 81. Toilet Pan

to the female toilet, and used for warming or melting ointment for the face or hair. (One of these vessels is represented in Fig. 81.) Along with them we found dainty little bronze knives, adapted to a variety of uses. Further, the ladies' toilet (perhaps the men's) included bronze or silver pincers, which appear to have been used for removing hairs from parts of the person where they were considered a blemish. Pincers, often exactly similar to the Mycenaean and supposed to have served

Toilet Accessories

Fig. 82. Ivory Mirror Handle

the same purpose, are also found in Northern Europe in the graves of men and women of the bronze age.[1] The Mycenaeans also used ear-picks precisely like the modern article; we have one of silver from Vaphio, another of gold recently found at Mycenae.

Mirrors

More important than all these are the mirrors. Like ancient mirrors in general, these are of bronze and consist of a disk, about six to eight inches in diameter, with a handle of wood, bone or ivory fastened on by two rivets. The disk, whose polished surface served the purpose of our looking-glass, was quite plain, but the handle was often carved with rich and beautiful designs. The finest example is an ivory handle to which is still riveted part of the bronze mirror (Fig. 82). It was found in 1892 in a pit, — probably the grave of a woman, — within the dromos of the tomb of Clytemnestra. This handle (though broken in two, we can make out that it was some 6 inches in length) is carved in imitation of a palm-tree with its drooping branches, — a rendering which comes out still more clearly in another example (Fig. 84). The trunk, instead of being naturally rendered throughout, is conventionally decorated with winding bands, which are marked alternately with rosettes and chevrons. Upon the branches perch two female figures symmetrically opposed, with their heads bent forward as if in sleep. This attitude may be due to the artist's economy of space, or (it may be) to structural considerations. About the shoulders and below the elbows appear masses of flowers, whose long stems seem to

Fig. 83. Ivory Plaque

[1] Bahnson, *Memoires des Antiquaires du Nord*, 1887, p. 268.

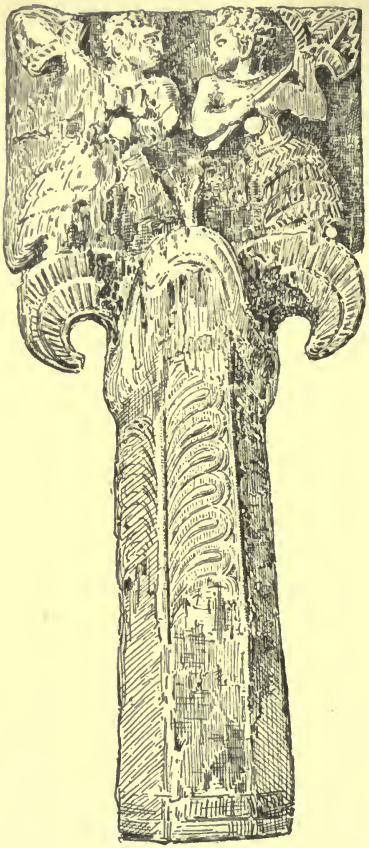


Fig. 84. Ivory Handle

be held in the women's right hands, — though this cannot be clearly made out, — while each grasps in her left hand what seems to be a single flower, with its corolla expressed by the gold head of the nail which served to fix the handle to the bronze plate. The same design is repeated on the other side of the handle. In the same grave was found a second bronze mirror, with the plaque (Fig. 83) which formed the capital (so to speak) of the handle, while the shaft in this case seems to have been of a different piece. Here, again, we have a kindred design, — two women, shoulder to shoulder and cheek by jowl, each holding a dove, which, with spread wings and outstretched neck, neatly fills out the corner space. Between the hands of each figure we see the rivet-hole.

Very like these is another ivory handle which we publish for comparison (Fig. 84), although it probably belonged to some other object, and not to a mirror. It was found in 1892 in the same chamber-tomb with the gold ring (Fig. 66) so frequently cited. On each face of the square shaft a palm-branch is carved; and on the lowest branches, which

spread out from the trunk in true volutes, stand two women holding each a palm-leaf (like a parasol), which fills out the corner space, as do the doves in the ivory plaque. All the women on these ivories have short curly hair; while some have thick lips and flat noses. These features, as already intimated, point to a foreign race-type, as does the fact that one of the women appears to wear earrings and two others are toying with doves. Now the dove was unknown in Greece until it was introduced from Syria along with the cult of Aphrodite, about whose idols and shrines we find it hovering (Figs. 38–40). It would seem, then, that the Mycenaean artist (for the three handles were probably fashioned in the same workshop) aimed to portray women of a Semitic type, known to him either from works of art or possibly by observation. It would, indeed, be simpler to assume that the handles were imported, but (so far as we can learn) mirrors of this kind are never met with among Oriental monuments.

The Mycenaean lady restored

After this rather tiresome toilet study, we may now picture to ourselves the Mycenaean lady in full dress, "with all her bravery on." Silks and satins she has none, but soft woolen of sea-purple stain, and glistering linen which even without embroidery might shine like a star in that radiant atmosphere. Her robes, to be sure, are in good part the poet's gift, but her jewels we have handled. "Fairly smothered in golden jewelry," as Schliemann found her, she is quite in keeping with her golden city. The diadem of gold is on her brow, golden fillets and pins of exquisite technique shining out of her dark hair; golden bands about her throat and golden necklaces falling upon her bosom; gold bracelets upon her arms, gold rings chased with inimitable art upon her fingers, and finally her very robes agleam with gold. Thus she stands

forth a golden lady, if we may borrow Homer's epithet for Aphrodite, — an epithet chosen, we may believe, not only for her beauty's sake, but for the radiant splendor of her apparel. And, indeed, it was doubtless from Aphrodite's native Syria the Mycenaeans learned to overload themselves with gold. At least the Hebrew women appear to have followed the same flashy fashion, as we may gather from the Scriptures:[1] "Ye daughters of Israel, weep over Saul, who clothed you in scarlet, who put on ornaments of gold upon your apparel."

[1] 2 Samuel i. 24.

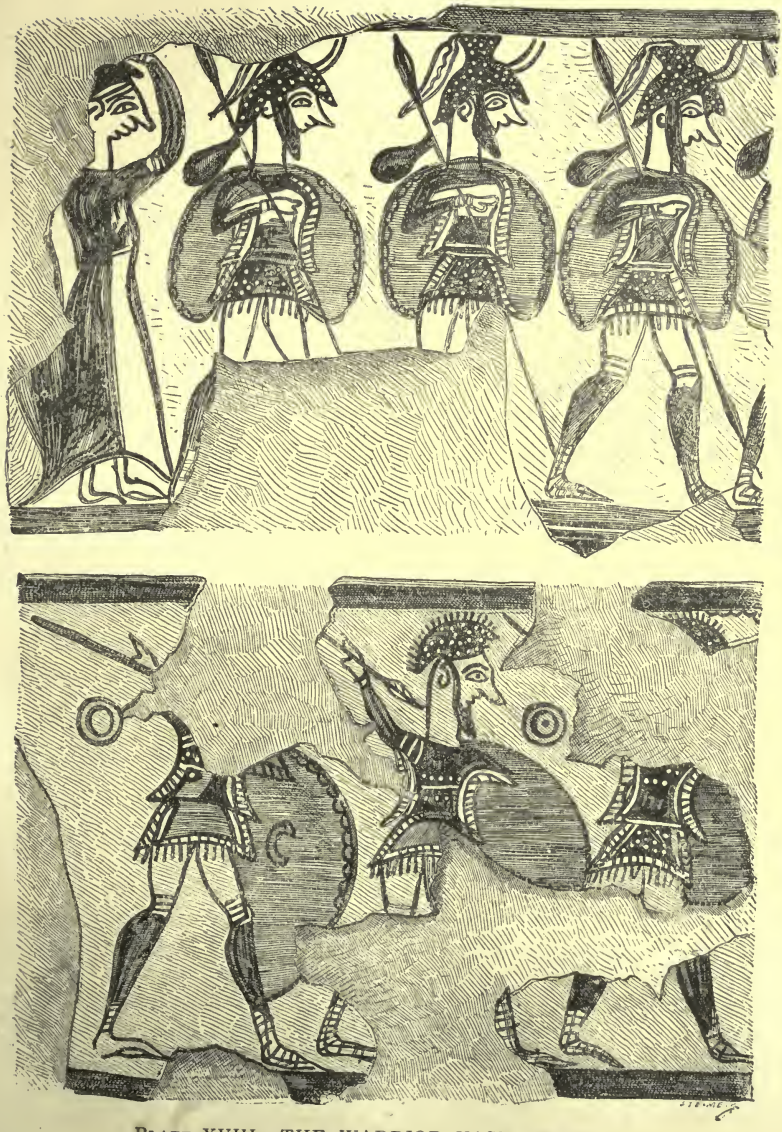


PLATE XVIII. THE WARRIOR VASE (MYCENAE)

CHAPTER VIII

ARMS AND WAR

THUCYDIDES characterizes the prehistoric age of Greece as a time when every man wore iron and went about his day's work in arms, for want of fenced cities and safe roads;[1] and the Mycenaean, even behind his Cyclopean walls and on his guarded highways, cannot dispense with weapons. His armory includes (at least) shield and spear, sword, battle-axe, bow and sling.

But, unfortunately for us, his defensive armor was of perishable materials, and so none of it has come down to us. We have to go to the monuments for all our data, and, for the shield at least, these are abundant.

The Shield

The Mycenaean shield, like the Homeric, must have been chiefly of hide, doubtless over a framework of wood.[2] But, in the simplest form, it was probably nothing but an oxhide with the extremities lopped off, so as to leave an oblong figure. This was then (apparently) stretched on a semi-cylindrical last and dried, to secure at once light-

[1] Πᾶσα γὰρ ἡ Ἑλλὰς ἐσιδηροφόρει κ. τ. λ., i. 6.

[2] A fragment of wood found in Grave V. is (according to Schuchhardt) "almost certainly a portion of a shield. Its flat face is curved to meet the rim, which is formed by a projecting narrow horizontal border of neat workmanship. It seems probable, therefore, that we have here one end of a large shield *pinched* in the middle. In the centre of the preserved portion is a round hole, which served to fasten either a handle on the inside or a large device on the outside" (*Schliemann's Excavations*, p. 267 and Fig. 276). In paintings (as on the Warrior Vase) the shield is rendered in light brown, — *i. e.* leather color.

ness,[1] stiffness, and convexity. Thus fashioned, the bull's hide came to be like a bellied sail borne before the warrior's person, and protecting him on both flanks as well as in front. A far more usual, though more elaborate, form is that of the oval notched shield, — again convex, — which covers the breast from shoulder to shoulder and reaches nearly to the feet. A smaller shield, reaching only to the hips, is known to us mainly from the great Warrior Vase where on the marching men it takes the form of a perfect circle, on the men in action that of a circle curved in at the bottom.

Fortunately we are left in no doubt as to the shape of the great shield; for, added to representations in painting and sculpture as well as inlaying and intaglio (Fig. 75), some of which indicate the curvature distinctly enough, — we have a good many models, in ivory and the like, which reproduce the convexity of the surface, though they are not hollowed out at the back.

In the Lion Hunt on the Mycenaean dagger blade (Fig. 89) we see these two shield-forms together, — alternating in fact, — with a notable variation in the rounding of the upper rim of the oblong shield of the man who is down. This is probably designed to protect the shield-bearer's face in an emergency, while allowing him at the same time to keep an eye on his antagonist. It is shown still better in the combat scene on a seal-ring from Grave IV.[2] On

[1] A single rawhide would weigh from 30 to 60 pounds; and yet Ajax bears a shield like a tower, made of seven bulls' hides and then overlaid with bronze (*Iliad*, vii. 219 ff.). No wonder he puffs and sweats under it (xvi. 109). It is the enormous, ponderous shield (as Reichel observes) that makes the war-chariot a necessity, not in actual combat, — for the warrior always dismounts and does his fighting on foot, — but for transportation to the field! Again, the shape of the shield helps us to understand how one could bivouac under its great concave on a frosty night (*Odyssey*, xiv. 474 f.).

[2] *Mycenae*, No. 335.

the gold intaglio (Fig. 75), the shield shows a remarkable convexity, but the notching is less distinctly rendered.

It goes without saying, that these great man-covering shields of the earlier Mycenaean age were never carried on one arm,[1] and the monuments distinctly show them slung by a belt from the shoulder, while the long spear gives employment enough to both hands. This recalls the statement of Herodotus, who tells us[2] that the Carians invented the shield handle, and that "in the earlier times the shield was without handles, and was managed by means of a leathern thong, by which it was slung around the neck and the left shoulder."

In the same connection the historian ascribes to the Carians the invention of helmet crests and devices on shields, but here the monuments do not sustain him. From the earliest times the Mycenaean shield seems to have been distinguished by these devices, either in colors, inlaid, or riveted on; and in the Homeric description of the Shield of Achilles we see the practice at its height. The notched shield of one of the lion-hunters is distinguished by stars set in the silver field; and Reichel thinks that some of the large double stars of gold from the Royal Graves had served the same purpose, while Schuchhardt has offered a like

[1] In the light of our present knowledge, it is clear that the principle of planning fortifications so as to compel the assailant to expose his "unshielded right side" to a fire from the walls could have had little or no application to early Mycenaean strategy. While the spear hand would necessarily be somewhat the more exposed, the shield was so far an all-round cover that it made little difference whether the attack came from right or left. At Tiryns the ramp is guarded on the right (according to the later principle), but at Mycenae on the left, — a fact that staggered Steffen. So, too, at Arne (Gha), there is no such thing as a bastion to command the assailants' right, but each of the four gates is provided with a court to serve as a cul-de-sac.

[2] i. 171. The historian has just been speaking of the Carians under King Minos; but this hardly dates their inventions so far back, as Anderson assumes (*Classical Review*, x. 213).

conjecture regarding the lion-mask and the great silver ox-head.

The earlier Mycenaean shield came near being a panoply in itself, and certainly left little need for breast-armor. It is therefore not surprising that we find few vouchers for the breast-plate in Mycenaean times. Indeed, it is an open question whether we are to credit the Homeric heroes with it; in the Odyssey the word θώρηξ does not occur at all, and Reichel undertakes to dispose of all references to the thing in the Iliad. The word occurs (he admits) in passages incontestably genuine, but never in the later specialized sense. It means nothing but "equipment;" and χαλκεοθώρηξ,[1] accordingly, is only "equipped with bronze;" while χαλκοχίτων (occurring 34 times) is "a figurative expression, and refers to the shield." He is clearly right in his contention that *chiton* is a truer figure for the shield covering the whole body than for the corselet, which never reaches below the hips. For all that, we have two late Mycenaean monuments on which the thorax appears to be represented. These are the Warrior Vase and a fragment of wall-painting from the Mycenae palace (Fig. 15). On the first the warriors clearly wear a short, close-fitting corselet, or the like, over a longer fringed chiton, while in the latter a difference of shade in the colors may be interpreted in the same way. In neither case can we determine anything as to material or make. Both these monuments are demonstrably late, and for the earlier Mycenaean times we have no proof that any breastplate (as distinguished from the chiton) was in use.

The Breast-plate

Of metal greaves we have no evidence from the monuments, and next to none in Homer. Only once, and that in a suspected passage,[2] are the Achaeans χαλκοκνημίδες

[1] *Iliad*, iv. 448; viii. 62.

[2] *Iliad*, vii. 41.

(bronze-greaved); and even in the divine panoply forged for Achilles the greaves are nothing more substantial than "pliant tin."[1] But, while bronze greaves probably came in only with the small shield or buckler, gaiters of leather or cloth were undoubtedly worn in early Mycenaean times. This is attested by the gold gaiter-holders found in Graves IV., V. and VI., — one of them still attached to the leg bone. In this, as in many other things, the actual Mycenaean finds go beyond the Homeric picture; four times the poet of the Iliad shows us a hero in the act of putting on his "goodly greaves fastened with *silver* ankle-clasps,"[2] but never with clasps of gold. While the shaft-graves give us no art-representations to confirm the evidence of the clasps, other monumental evidence is not wanting. Greaves, fastened by leather bands below the knee, are shown on some engraved gems, but more distinctly, of course, in painting, — *e. g.*, in the Bull-hunter of Tiryns (Fig. 12), and the men on the Mycenae Warrior Vase.

Greaves

Homer's Achaeans are of all things "well-greaved" (εὐκνημίδες Ἀχαιοί is said to occur forty times in the Iliad); though, with a shield reaching from head to foot, leg-armor would seem to be as much a superfluity as the cuirass. But with the rim of the heavy shield thumping on the ankles at every stride (as Hector's does)[3] the shins would need padding, and this Reichel thinks was the real office of the greaves; they were no part of the panoply, but a protection against it!

The Mycenaean helmet again, as a rule, was nothing but

[1] *Iliad*, xviii. 613.

[2] Hector, iii. 331; Agamemnon, xi. 18; Patroclus, xvi. 132; Achilles, xix. 370.

[3] *Iliad*, vi. 117.

a leather cap, more or less fearfully and wonderfully garnished.[1] The monuments present several varieties of helmet, but none of metal. Metal decorations, however, may be recognized with a degree of probability on some of them. Thus the helmets of the men on the Warrior Vase are dotted with white, — possibly representing bronze bosses or the like. The Homeric Greeks decked their helms with the gleaming tusks of the wild boar,[2] and this was in all probability an early Mycenaean practice. At least Dr. Schliemann found in Grave IV. sixty of these tusks, — each with the reverse side cut perfectly flat, and with the borings to attach them to some other object; and with them a large quantity of flat quadrangular pieces from 1 to 2 inches long and $\frac{1}{2}$ to $\frac{3}{4}$ of an inch broad, cut out of boars' teeth, and pierced with a hole at each extremity. He inclined to the opinion that they had belonged to horse-trappings, but Brückner and Reichel assign them to helmets. They were found in a veritable funeral armory; and we can hardly conceive that helm and shield were left behind when sword and spear uniformly accompanied these heroic chiefs to the tomb. In Grave V. we have identified some of the woodwork of a shield; and here we have, no doubt, the flashing tusks that once decked out a helmet.

The Helmet

The helmet is represented on monuments of various kinds, — in the round, in relief, in intaglio, and in painting (the Warrior Vase). One of the best reproductions is the ivory head (Fig. 85), from a tomb in Lower Mycenae. It shows a conical cap, surmounted by a button, — possibly with a socket to hold the plume; and apparently a cheek-

[1] The common Homeric designation κυνέη apparently points to an original "dog-skin" cap, though Thrasymedes' κυνέη is expressly described as of bull's hide (*Iliad*, x. 253), and Dolon's of weasel skin (*ibid.* 335), while Odysseus wears a κυνέη πάγχαλκος (*Odyssey*, xviii. 378).

[2] *Iliad*, x. 263 f.

piece of the same construction ;[1] and we have similar ivories from Spata and Menidi. On a fragment of "Egyptian porcelain" from Grave III., published by Schuchhardt, we have a fine head in profile. It shows the upper rim of the great shield, as well as the helmet. "The helmet is low and fits closely to the head. It consists of several superimposed bands, each of which is separately plaited, probably out of leather thongs. Over the ear can be seen the chin-strap. On the top of the helmet, and to the front, is an appendage shaped like a horn: the remnant of a second appendage can be seen to the centre, but it is impossible to see how it terminates."[2] The men on

Fig. 85. Ivory Head from Mycenae

[1] The make of this helmet is anything but clear. Perrot takes it for "a leather or felt cap, covered with metal plates fastened together by circular strips, likewise of metal, narrowing from base to crown." This certainly seems a less forced interpretation than Reichel's, who sees in it simply a cap of woven leather, and in the cheek-piece or chin-band a *braided beard*. The helm Meriones lends Odysseus (*Iliad*, x. 362 f.) is apparently a felt cap lined with leather thongs for stiffening, and outwardly bedecked with wild boar's tusks "thick-set on every side."

[2] This vessel, judging from its material, must have been imported, and Reichel therefore denies it any validity as a witness of contemporary Mycenaean custom.

the march on the Warrior Vase wear two horns on their helmets, — a practice, we know, common to several ancient peoples;[1] and a gem (Reichel's Fig. 42) represents a helm surmounted by a pair of ram's horns. Sometimes we seem to recognize ears as well as horns, and this may go to prove that the helmet was by origin simply the pelt or scalp of a horned animal.[2] The fierce aspect of the warrior was further heightened by the plume or horse-tail (ἵππουρις) which in Homer is always "nodding terribly aloft."[3] The poet feels what Tacitus[4] declares, that in all battles it is the eye that is first vanquished.

The fashion was kept up by the later Hellenes, and in Aristophanes we meet with a sort of pacha of three tails: it is Lamachus, —

> "The fierce and hardy warrior; he that wields
> The Gorgon shield, and waves the triple plume."[5]

The crest is shown on the men of the Warrior Vase, in the Siege Scene (helmeted figure at bottom), and on the gold intaglio (Fig. 75).

Offensive Armor

In the matter of offensive armor, our information is much more clear and certain. For over and above the art representations, we have recovered examples of most of the weapons. We have in particular, from the

The Sword

Royal Graves of Mycenae alone, some 150 bronze swords, more or less completely preserved.[6]

[1] Plutarch informs us that King Pyrrhus was distinguished by the goat-horns thus worn (*Pyrrhus*, xi.).

[2] The Thracians, for example, wore fox-pelts on their heads (*Herodotus*, vii. 75; *Xen. Anab.*, vii. 4, 4), and the Cimbri wore helmets in the likeness of savage beasts with yawning jaws and winged crests to increase their stature (Plutarch, *Marius*, xxv.).

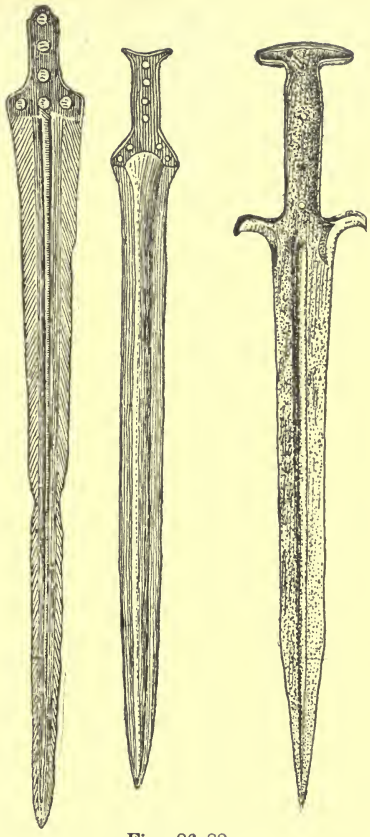
[3] δεινὸν δὲ λόφος καθύπερθεν ἔνευεν (*Iliad*, iii. 337 *et passim*).

[4] *Germania*, 43.

[5] *Acharnians*, 914, tr. Frere.

[6] In Grave V. (his first sepulchre) Dr. Schliemann notes (1) "2 swords

These swords are often three feet long or more, with a straight two-edged blade of rigid metal rather broad at the heel and tapering thence to the point. Thus they are obviously adapted not to the cut but to the thrust; and for the thrust exclusively we see them employed in the encounters represented in Mycenaean designs (e. g., Fig. 75).[1] Among these swords we find none with a hilt of solid bronze, though in some instances the bronze runs back in a shank which is then mounted with wood to serve as a handle. As a rule, the hilt is of a different substance (as wood, bone, ivory) and ends in a hemispherical knob or



Figs. 86–88
Bronze Swords (earliest to latest form)

lying by the body at the northern extremity;" (2) "hardly more than one foot to the right of the body, 11 bronze swords;" (3) "with the body at the south end of the sepulchre, 15 bronze swords, ten of which lay at his feet;" (4) between this body and the middle one, "a heap of more or less broken bronze swords, which may have represented more than 60 entire ones." Grave IV. yielded "46 bronze swords more or less fragmentary." On the other hand, it is a surprising fact that not a sword nor a trace of one has been found in any of the prehistoric settlements at Troy (*Ilios*, p. 483); and Helbig (*Die Italiker in der Poebene*, p. 20, 78) notes there "an almost complete absence of weapons which correspond to the ordinary notion of a sword."

[1] The Homeric swordsman, on the contrary, prefers the stroke; according to Helbig (*Das Homerische Epos*, p. 332) there are 24 instances against 11 of the thrust.

pommel of the same material (often mounted with gold) or of alabaster. The hilt is affixed to the blade by rivets of bronze or gold.[1] Usually the blade has a raised central ridge from heel to point, sometimes with a further decoration of geometrical design or figure subject. On one we have on each side of the ridge "a frieze of galloping horses worked in low relief;" on two others, griffins in full flight.

Inlaid Sword-blades

But the greatest interest attaches to the bronze blades inlaid with designs in different metals, which have all the effect of painting in colors. We have two of these from Grave IV., four from Grave V., one from Thera, and another from Vaphio. The simplest of these has a triple row of spirals (recalling the pattern on the stele, Plate XI.), not inlaid in the strict sense, but engraved directly on a gold plate which is then set into the blade. The Vaphio sword is inlaid with a simple leaf pattern, and that from Thera (Fig. 118) with tiny gold axes of a unique type, resembling the tomahawk. One of the Mycenae blades (Grave V.), with the gold plate covering the hilt, is decorated with detached blossoms; another with three running lions; a third (Fig. 115), with cats or panthers hunting wild ducks on the banks of a river which is full of fishes and fringed with the lotus.

But of prime importance, both as a work of art and an illustration of Mycenaean armor, is the blade from Grave IV. inlaid with a hunting-scene on each face (Fig. 89).

[1] The Homeric sword is usually ἀργυρόηλος ("studded with silver nails"), but Agamemnon's has golden rivets. That the ἧλοι are in fact the rivets now in actual evidence on the sword-hilts and not mere decorations of the blade becomes clear as we see Agamemnon putting on his armor (*Iliad*, xi. 29 ff.): "About his shoulders he slung his sword, and on it shone nails of gold, but about it was a sheath of silver." With the blade in its scabbard, the golden rivets of the hilt still flash in the light.

On one side, we have a lion giving chase to five gazelles, with the hindmost already in his clutches, while the rest are in headlong flight; on the other side we have the lion-hunt, so often referred to in these pages. Five hunters have closed with three lions, and are getting the better of them. One of the lions is indeed pouncing on the foremost pursuer, who is already prostrate and entangled in his shield; but his comrades are pressing on to his relief, while the other lions are in full retreat. The men, clad in the simple loin-apron, are armed one with the bow, the rest (doubtless including the fallen hunter whose weapon is not in sight) with the long spear. The spearmen have great shields — the notched oval and the oblong shield alternating — slung from the shoulder by the strap (τελαμών), except in the case of the prostrate man whose shield has become detached.

Fig. 89. Inlaid Dagger-blade (Grave IV.)

On the boldness and symmetry of this design, we need not enlarge; the whole scene is instinct with life and speaks for itself. As a painting it would challenge admiration, but as

a composition in metals, made to serve every purpose of the colorist, it is nothing less than a marvel. We cannot here reproduce the colors,[1] and we must content ourselves with indicating their distribution. The nude parts of the men and the bodies of the animals are rendered in gold; the trousers and shields in electron (an alloy of gold and silver), while "some black substance" is used to represent the hair and manes as well as the rims and straps of the shields, with the devices on one of them, and certain other details. The figures are not inlaid immediately on the dagger-blade, but on a separate bronze plate which has been enameled to give it a darker tone and a finer gloss. This plate, whose outline is distinctly brought out in the illustration, was then set into the blade. Thus we have the following colors: the original bronze of the blade, which has now become green by oxidation; the glossy black of the plate which served as the ground for the design, and on which the forms stand out in sharp relief; the pure, or almost pure, gold of the figures; the silvery gray of the electron in the dress and armor; and finally the black of the devices and other details.[2]

Later Swords

Outside the Royal Graves and so presumably later than the inlaid daggers, a few swords have been found of a somewhat different type. One of these (Fig. 88) has the usual bronze blade, but broadening at the heel to form a guard and then running back in a wood-

[1] This has been done under the direction of M. Foucart, sometime Director of the French School at Athens, by M. Blavette, who published this and five more of the designs in the *Bull. de correspondance Hellénique* for 1881. The same plates have since been used by Perrot and Chipiez (*Myc. Art*, Plates XVIII., XIX.).

[2] Though most of these blades were discovered by Dr. Schliemann, in 1876, it was left to Koumanoudes, in cleansing them four years later, to discover and publish the designs (Ἀθήναιον, 1880).

mounted hilt with a knob at the end. It is, substantially, a solid bronze sword. The latest Mycenaean swords are comparatively short, with a hilt differing but little from the earlier type save in the matter of the guard, which is occasionally met with. Iron swords of the same type are found in parts of Greece, showing that the fashion outlasted the Mycenaean age.

The sword was sheathed in a scabbard of wood, leather, or even linen, but this was richly overlaid with gold,[1] — sometimes studded from end to end with embossed gold disks, as we may infer from finding one of these still adhering to the fragment of a sword in Grave V., with some 240 similar disks strewn around. The baldric or sword-belt was naturally of leather;[2] but this, at least, when worn by princes, was plated with gold. Indeed Dr. Schliemann found a shoulder-belt of pure gold — 4 feet long and $1\frac{3}{4}$ inches wide — with the fragment of a sword above mentioned still attached to it. Three more of these golden baldrics were found in Grave IV., two of them ornamented with a continuous row of rosettes. One is unusually thick and solid, — 4 ft. long and $1\frac{1}{3}$ in. broad, with a small border on each side produced by turning down the gold plate. Though we must regard these golden baldrics as funeral trappings rather than as belts for actual service, they still have unique illustrative value as the translation into imperishable material of a type otherwise lost.

The Scabbard

[1] Dr. Schliemann mentions several blades with remnants of the wooden sheath still clinging to them; and remarks (*Mycenae*, p. 283): "With many of the swords I found traces of well-woven linen still attached to the blades; and there can consequently be no doubt that many swords had linen sheaths." In Homer, Agamemnon alone has a silver scabbard (*Iliad*, xi. 31). The peace-offering of Euryalos to Odysseus (*Odyssey*, viii. 403 ff.) is a sword of solid bronze, with a silver hilt, and a sheath of new-sawn ivory.

[2] Cf. *Iliad*, vii. 304: εὐτμήτῳ τελαμῶνι.

In the heap of swords found in Grave IV., there were ten which Dr. Schliemann describes as "short and one-edged," each of one solid piece of bronze, measuring (when entire) 2 to $2\frac{1}{4}$ feet in length and with the handle ending in a ring by which it could be hung from the girdle. These are, properly speaking, knives (*φάσγανα*) for use in slaughtering victims rather than in battle. The Vaphio tomb yielded more of these one-edged blades, with handles of bone or wood mounted with bronze. The handles of these knives from Mycenae and Vaphio are proportionately much longer than the sword-hilts, the hilts measuring not more than $3\frac{1}{3}$ inches, whereas the knife-handles are as much as $5\frac{1}{2}$. So, too, the swords of the bronze age, found in Northern Europe, have relatively short handles. This has led to the inference that the men of that age had smaller hands than those of our day, an inference apparently confirmed by the Mycenaean rings, which, as we have said, are often hardly large enough for a lady's finger. But these rings may have served only as seals; and the Mycenaean swordsman (as we see him in the combat scenes) using his weapon for the thrust rather than the stroke would naturally seize it nearer the blade. The knife, on the other hand, being used mainly in sacrificing was probably grasped with both hands.

Knives

The Mycenaean spear differed but slightly from that of the later Hellenes. The shaft was of wood, doubtless of the tough ash, as in Homer (where its uniform use for this purpose has made *μελίη* a synonym for the weapon), but we have no means of verifying this. In the heap of weapons in Grave IV., Dr. Schliemann reports that "some of the lance-shafts seemed to be well preserved, but crumbled away when exposed to the air." The spear-head was of bronze with a socket to receive the shaft

The Spear

which was further secured by rivets.[1] A specimen from Grave IV. has not only the socket for the shaft but a ring on either side — as Schliemann thought for a cord to fasten it to the shaft; but Schuchhardt conjectures that it may have served to hold the object (knapsack or whatever it be) which the marching men of the Warrior Vase carry on their lances.

Fig. 90
Spear-head

The butt end of the shaft was occasionally shod with a spike to fix it in the ground; but this spike was hardly invented, or at any rate had not come into general use, till late in the Mycenaean age. This is clear from the fact that not one has been found thus far in the excavations, and that among the monuments it is represented on the Warrior Vase alone. Singularly enough, the spiked lance occurs only once in Homer, and that in the late Tenth Iliad,[2] unless we are to interpret in this sense the nine times recurring ἔγχεσιν ἀμφιγύοισι — an interpretation by no means certain.

The Bow

While we have recovered no example of a bow, whether of wood or of horn, arrow-heads abound, and the monuments not unfrequently show us the archer in action. In the Siege Scene, for instance, we see the archers with bended bows in a kneeling attitude, as they continued to be represented in archaic Greek art, notably in the Aeginetan pediment now at Munich. Like

[1] In this it is like the Homeric lance, as are all those found in the Swiss lake dwellings and the tombs of Northern Europe. The Trojan lance is the reverse of this: the head is not provided with a socket to receive the shaft, but with a tang which fits into a slit in the shaft and is secured there by a rivet. The tang, as a rule, still shows the rivet-hole. Cyprus alone has yielded lance-heads to match the Trojan: cf. *Ilios*, p. 475 f.

[2] 152 f.

the modern sharpshooter, they thus avoid needless exposure and get a steadier aim.[1]

For the earlier Mycenaean times, the arrow-head of obsidian alone appears. In Grave IV., 35 of them were found in a heap, — possibly the contents of a quiver deposited there with the bow, but in that case bow, quiver and shafts had all perished. In the upper strata of Mycenae and in the later tombs, the arrow-head is usually of bronze, though instances of obsidian still occur. As this was originally the sole material in use, it has set the fashion so that the pattern is very much the same whether in stone or bronze, as shown in Figs. 91–93.

Fig. 91. Obsidian

Figs. 92, 93. Bronze

Quite recently (1895) Dr. Tsountas found in a Mycenae chamber-tomb twenty bronze arrow-heads in two bundles of ten each, suggesting that the arrow-smith may have put them up and sold them by the decad rather than the dozen. To lighten his load on the march the archer would probably carry a supply of these bundles without the wooden shafts, which could be whittled out as they were wanted.

The Sling

Along with the archers in the Siege Scene, we have slingers also making ready for the whirl. Neither bullets nor stones shaped for the sling have been found, and we are left to infer that the slinger employed such stones as he could pick up.[2]

[1] The archer also appears in the Lion Hunt (Fig. 89), and on a gold signet (from Grave IV.) representing a Stag Hunt.

[2] But Schliemann found what he calls "sling-bullets of copper ore" at Hissarlik (*Ilios*, p. 477), and Perrot and Chipiez (*Mycenaean Art*, i. 133) figure oblong-shaped stones to which they give the same name, while admitting that there is no proof of their belonging to a primitive epoch. As we shall see,

In the Great Treasure at Troy, Dr. Schliemann found 14 battle-axes of nearly pure copper, and shaped like a chisel, while the graves of the Mycenaean Acropolis yielded only one such battle-axe and fragments of another.[1] But in the mound above these graves he found a couple of two-edged bronze axes with a hole in the middle for the helve,[2] and afterwards, in the sixth stratum at Troy, he picked up four more exactly like them.[3] Axes of this identical pattern have been found elsewhere, among them an example procured by Mr. Arthur J. Evans near the prehistoric site of Goulàs, in Crete, and bearing a group of incised linear characters. Of the two-edged battle-axe we have two small models in gold plate (detached) and some 56 more set between the horns of the gold ox-heads from Grave IV. An agate intaglio from the Heraion shows the axe in the same position, but suspended from above, and the same type is represented in the Great Signet (Fig. 65). We may, therefore, take this to be the typical Mycenaean battle-axe; but the Vaphio tomb has given us one of a very different type (Fig. 94). It is crescent-shaped, with two large holes (possibly to lighten the blade), while the back is cut out in three teeth. Through these is the hole for the helve which was guarded by a sort of annular cap

The Battle-axe

Fig. 94
Axe from Vaphio

the scratchings about the bottom of the fragment of the Siege Scene have been taken for sling-stones and throwing-sticks.

[1] The Trojan axes are from 6.4 to 12.4 inches long, 1.2 to 3 inches broad, and .5 to .8 inch thick, the largest weighing about 3 lbs. av. "They are exact copies of the primitive stone battle-axes, only made longer so as to be more readily fastened to the wooden shafts and used on both sides."

[2] *Mycenae*, No. 173.

[3] *Ilios*, p. 606.

distinct from the axe head. With this unique specimen before us, we can at last understand the feat of Odysseus in sending an arrow through the rings of twelve axes set up in a row.[1] From the same tomb we have a gem on which is represented in intaglio a man in very peculiar costume (possibly a priest), bearing on his shoulder an axe of this very type. Similar axes were not unknown in Egypt and Syria; one found at Beirut has been recently published.[2] The axes on the Thera dagger blade (Fig. 118) present still another type, not unlike the tomahawk of the American Indian.

In the Battle of the Ships,[3] we see the rank and file engaged in the tug of war, "with sharp battle-axes and hatchets, and huge swords and double-pointed spears."

Not to mention the club (ῥόπαλον), which must have been in use among the Mycenaeans, as it survives into Homeric times, — though our sources afford no clear indication of it — we have now passed in review all the arms and armor known to us from the monuments and the finds. Summing up the results obtained, we see that the Mycenaean was not behind the Homeric warrior in weapons of attack, for he was provided with sword, spear, bow, sling and battle-axe. Not so, however, with defensive armor. Our survey shows that in the earlier period, at least, this consisted (strictly speaking) of the great shield alone; for the breastplate is never met with, save on late monuments like the Warrior Vase, and greaves and helmet, made as they were of leather or cloth, differed but little if any from the gaiters and cap worn in time of peace, and hardly formed a distinctive part of the wargear, — helmet crests and horns alone excepted.

Summary

Nor were offensive arms of every kind as common as

[1] *Odyssey*, xxi. 420 ff.

[2] By Montelius in *Archiv für Anthropologie*, 1892.

[3] *Iliad*, xv. 711.

one might suppose. In the Acropolis graves at Mycenae, abounding as they did in metals, the spear-heads found were but few, while in the later tombs sword-blades as well as spear-heads are, as a rule, of rare occurrence. Arrow-heads, on the other hand, are comparatively abundant. Now it is true that we cannot safely reason from the absence of funeral offerings, for the survivors, as we have seen, often removed from the tomb the best of these, arms undoubtedly included. Still, the fact of their absence, taken together with the paucity of defensive armor and with the evidence of certain monuments (notably the Siege Scene), justifies the conclusion that sword and spear were arms for the few, not for the mass. While princes wore the sword with its richly ornate blade and sheath and belt, and their picked men bore shield and spear, the rank and file doubtless fought simply with bow and sling.

A Mycenaean army

Thus we may conceive a Mycenaean army marching out to battle. The chief mounted on his chariot (as we see him on the stelae that marked his tomb and the signet he wore) fares forth in panoply — with his great emblazoned shield, his plumed helmet, his bronze sword inlaid with living scenes from heroic life and slung from a baldric glittering with gold. The lancers follow (in the later time at least, as we see them on the Warrior Vase), with shield and corselet, leather greaves and helmets set off with terrific horns and horse-tails, — possibly with flashing tusks of the wild boar as well — with the long lance at "carry arms" and knapsack or canteen slung from it. With them we may fancy the braves of the battle-axe and club ready for the hand-to-hand encounter. And bringing up the rear moves the great mob of the bow and sling, — either nude or barely clouted, and without shields — who do their fighting at long range.

This is anything but the Homeric picture, which has little room for aught but bronze-mailed heroes at close quarters with the spear. But the Homeric picture is not always consistent with itself. Now and again through the glamor of brazen mail we get glimpses of an older and simpler habit. Thus the only man-at-arms expressly introduced as a Mycenaean — "Periphetes of Mykenae, the dear son of Kopreus, who was wont to go on the errands of Eurystheus to the mighty Herakles" — bears the huge Mycenaean shield, and it costs him his life. "For, as he turned back, he tripped against the rim of his shield which he was wont to bear, *a shield that reached to the feet*, a fence against javelins — thereon he stumbled and fell back," [1] whereupon Hector hastens to transfix him with his spear. And Hector's own shield is likewise ποδηνεκής, as we are informed, not by an epithet but by action.[2] "So saying Hector of the glancing helm departed, and the black hide beat on either side against his ankles and his neck, even the rim that ran uttermost about his bossed shield."

compared with Homeric array

With such a shield, as already observed, there could be little use for a coat-of-mail, and less for metal greaves — unless it were to protect the shins from the thumping of the shield rim rather than the enemies' fire. And Reichel has pretty clearly shown that the "greaves" were not of metal and formed no part of the defensive armor proper; and, further and still more important, that the breastplate of bronze is an anachronism in the poems and occurs mainly in late accretions. [3]

[1] Very much as we see the foremost lion-hunter on the inlaid dagger (Fig. 89). — *Iliad*, xv. 645 f.

[2] *Iliad*, vi. 116 f.

[3] "He points out that in any case the use of a breastplate is never ascribed consistently to any important hero; those who have it one moment are the next moment without it. No breastplate is ever mentioned in the *Odyssey* [though

The glimpses we catch of the primitive Homer accord with the testimony of our monuments, and the monuments agree with our knowledge of other races at a primitive stage of culture. We are in particular reminded of the early Germans as Tacitus pictures them.[1] "But few use swords or long lances. They carry a spear with a narrow and short head, but so sharp and easy to wield that the same weapon serves, according to circumstances, for close or distant conflict. As for the horse-soldier, he is content with a shield and spear; the foot-soldiers also scatter showers of missiles, each man having several and hurling them to an immense distance — *being naked or lightly clad with a little cloak.* There is no display about their equipment; their shields alone are marked with very choice colors. A few only have corselets, and just one or two here and there a metal or leathern helmet."

and that of other primitive peoples

The Roman historian, drawing from the life, has here given us an ethnic portraiture in singular harmony with that we draw from the monuments of the Mycenaean age. The Germans, like the Celts and Slavs, have no defensive armor but the shield — the great, broad, rectangular *scutum* shaped like a door (θυρεός, Plutarch calls it), which covered the whole man. "Very slowly did the custom of protecting the body from the missiles of the enemy by means of close-fitting armor spread through the North, despised as it was at first by barbaric courage."[2] As the Germans go

the slaughter of the suitors gives abundant occasion]; and none occurs in the *Doloneia*, which revels in minute descriptions of every other sort of armor. The panoply is repeatedly referred to as consisting of helmet, shield and spear, with no allusion to the θώρηξ. Ares himself, who as war-god should wear the typical armor, has no breastplate in E 855 or O 125. Aias never wears one, nor Idomeneus, nor Sarpedon, nor Glaukos. Thus the argument from silence is exceedingly strong." — Walter Leaf, *Class Rev.*, ix. 55.

[1] *Germania*, c. vi. tr. Church and Brodribb.

[2] Schrader-Jevons, *Prehistoric Antiquities*, p. 231.

into battle nude, so the Celts often fling away their clothes and rush naked on the enemy's lines. So, too, in later times certain of the Goths (Procopius informs us) fight even without cloak or tunic, save for a fragment round the hips and loins.

The Siege Scene

Fortunately, now, we have recovered at least one Mycenaean battle-picture, fragmentary, indeed, but so far as it goes throbbing with life and reality. The scene — a fenced city on a mountain-side beleaguered by a hostile force — was rendered on the body of a great vase, a considerable fragment of which, with several smaller ones, was found in Grave IV. But the metal was so thickly crusted with oxide that it lay for years in the Museum at Athens like the sword-blades with its story untold. At last it was carefully cleaned by Mr. Koumanoudes and first published by Dr. Tsountas.[1]

The vase, of which the large fragment is here reproduced (Fig. 95), was a wide-mouthed vessel of solid silver, save that the rim is plated with gold and the notched shield, riveted under the rim, is also of gold.[2] The relief (as on the Vaphio cups) doubtless covered the entire surface, and might have afforded a complete profile of the hill-fort, with the entire array of its defenders and assailants. As it is, there remains enough to give us a most vivid conception of primitive warfare. Out of the rocky slope — very much as we see it at Mycenaé — springs the fortress wall, and behind rise other squared structures which may stand for towers, or for houses in the citadel; before the wall grow trees which we take for wild olives. Upon the wall are five women — with a sixth indicated by

[1] *Ephemeris Archaiologike*, 1891, p. 19.

[2] This golden shield, seeming to take the place of a handle, is one of two or more originally running around the vase. A second, precisely like it, is among the fragments in the Museum. Cf. Reichel, *Homerische Waffen*, p. 142.

an uplifted arm — in attitudes of frenzy and supplication. Before the walls we see the archers and slingers in the heat of conflict, — speeding their shafts and hurling their missiles at the beleaguering foe, whose figures must have filled the missing foreground.[1] The bowmen are kneeling,

Fig. 95. Siege-Scene from Silver Vase (Grave IV.)

while the slingers stand erect and make ready for the volley, all of them without defensive armor of any kind, and entirely nude. Possibly the artist only intended thus to suggest the suddenness of the onset and the barbaric fury with which the garrison have rushed to the defense. At the bottom of the fragment is a warrior who seems to be armed with a sling, and wears a short-sleeved chiton and plumed helmet; in the midst of the combatants are

[1] In fact another fragment gives us trace of a horse and chariot, obviously belonging to the besieger's van.

kneeling two men, apparently unarmed; and in the rear, just under the wall, are two figures, which are variously interpreted. Some take them for lancers covered by oblong shields;[1] but the lances, instead of being beaten out of the metal (in *repoussé*), like the bows and slings, are mere scratches on the surface (apparently due to chance), while the "shields" may be only short cloaks. Thus interpreted we may recognize in the figures aged non-combatants, watching the conflict; and we have a scene the very counterpart of one wrought by Hephaestus on the shield of Herakles: —

Prototype of Hesiod's picture

> "Above them warrior men
> Waged battle grasping weapons in their hands.
> Some from their city and their sires repell'd
> Destruction: others hastened to destroy:
> And many pressed the plain, but more still held
> The combat. On the strong-constructed towers
> In very life, by Vulcan's glorious craft,
> Stood women, shrieking shrill, and rent their cheeks.
> *The elders, hoar with age, assembled stood*
> *Without the gates* and to the blessed gods
> Their hands uplifted for their fighting sons,
> Fear-stricken. These again the combat held."[2]

How little of this scene is wanting even on our fragment! The walled town with the frenzied women on the ramparts, the elders without the walls, the townsmen repelling the assault — all are present. And on other fragments, we make out fallen warriors stretched upon the rocky ground; others carrying off the dead or wounded; others still

[1] So, Rossbach, *Philologus*, 1892; Pernice, *Ath. Mitth.*, xvii. 216; Reichel, *Ueber Hom. Waffen*, 142, who makes out a shield-strap on the left shoulder of the first lancer.

[2] Hesiod, *Shield of Herakles*, 237–248, tr. Elton. So in the Homeric "Shield of Achilles," in the series of natural and purely human scenes wrought in inlaid metals by Hephaestus, we see a beleaguered town, with the women and children standing on the wall to guard it, and the old men with them (*Iliad*, xviii. 514 f.).

hurling the lance or stooping to pick up sling-stones — even a war-chariot to add to the poet's detail.[1]

However the interpretation of details may differ, the scene as a whole is a notable contribution to our resources for vivifying as well as verifying the image of this prehistoric world. Rude as it is from the artistic point of view, how vividly it brings before us the savagery and horror of ancient war — arraying not army against army, but tribe against tribe, in a struggle without herald and without quarter! On slight pretext or none, the abduction of a woman or the lifting of a flock, a whole people fly to arms. The offending town is beleaguered, and the defense is maintained with the savage fury of men who feel that all is at stake, cheered on by women who know too well the doom awaiting them if once the stronghold be mastered, their husbands and sons put to the sword, and their homes given to the flames. For war is but a higher order of hunting, and women the only game worth taking alive. It is this that nerves the arm of Hector, when Andromache would hold him back from battle[2]: —

A verification of Homeric war-pictures

"Yet doth the anguish of the Trojans hereafter not so much trouble me, neither Hekabe's own, neither King Priam's, nor my brethren's, the many and brave that shall fall in the dust before their foemen, as doth thine anguish in the day when some mail-clad Achaian shall lead thee weeping and rob thee of the day of freedom. So

[1] See the three additional fragments published by Reichel (*Ueber Hom. Waffen*, p. 143). In the oval and longish scratches (not in *repoussé*), at the bottom of the main design, Reichel recognizes "characters of an unknown script," while Evans (*J. H. S.*, xiii. 199) takes them for sling-stones and throwing-sticks — the latter "of a form that strikingly recalls the Australian *tombat*. The throwing-stick is also Syrian."

[2] *Iliad*, vi. 450 ff.

shalt thou abide in Argos and ply the loom at another woman's bidding, and bear water from fount Messeis or Hypereia, being grievously entreated, and sore constraint shall be laid upon thee."

And we hear the antistrophe in Andromache's lament for the fallen hero[1]: —

"Husband, thou hast gone young from life, and leavest me a widow in thy halls. And the child is yet but a little one, child of ill-fated parents, thee and me; nor, methinks, shall he grow up to manhood, for ere then shall this city be utterly destroyed. For thou art verily perished who didst watch over it, who guardedst it, and didst keep safe its noble wives and infant little ones. These soon shall be voyaging in the hollow ships; yea, and I too with them, and thou, my child, shalt either go with me where thou shalt toil at unseemly tasks, laboring before the face of some harsh lord, or else some Achaian will take thee by the arm and hurl thee from the battlement, a grievous death, for that he is wroth, because Hector slew his brother, or father, or son, since full many of the Achaians at Hector's hands have bitten the firm earth."

Such, as old Phoenix rehearses them,[2] "are the woes that come on men whose city is taken: the warriors are slain, and the city is wasted of fire, and the children and the deep-girdled women are led captive of strangers."

[1] *Iliad*, xxiv. 725 ff. [2] *Ibid.*, ix. 592 f.

PLATE XIX. THE VAPHIO CUPS

CHAPTER IX

SOME PHASES OF MYCENAEAN ART

THE remains of the Mycenaean world, already passed in review, abundantly attest an advanced stage of culture. Indeed, such is the maturity of Mycenaean art, in some of its phases, that there are still those who refuse to accept its monuments as the work of Greek hands in pre-Homeric time.[1] And, in fact, we cannot wonder at this skepticism, in view of the sudden and startling revelation of a wealth and power and refinement of which history had given us hardly a hint. That Hellas had always been wedded to penury, the Hellenes themselves believed,[2] and now Mycenae confronts us with a dazzling demonstration of her opulence. With poverty goes feebleness; yet we are awe-struck in the presence of the mighty walls of Tiryns, of the lion-guarded gateway of Mycenae, of the solemn domes hidden away in the hillsides. We regard with amazement that enormous lintel-block lying with its 120 tons' weight over the doorway of the Treasury of Atreus. How was the

[1] Thus but recently Dr. Helbig has been arguing again (before the Academy of Inscriptions in Paris) that "the so-called Mycenaean Art is nothing else than Phoenician art of the second millennium B. C." (See *Academy*, July 20, 1895, and *Class. Review*, October, 1896.) At the other extreme we have the earlier contention of a Russian archaeologist (Stephani) that it is nothing but Gothic art of the third century of our own era! According to this *savant* the treasures of Mycenae were buried there by the Heruli with some of their fallen leaders about 267 A. D., and consist partly of the work of Gothic hands, partly of the plunder of Greek cities. (See *Jour. of Hellenic Studies*, i. 94–106.)

[2] Herodotus, vii. 102. See p. 2.

ponderous bulk quarried, transported, raised and fitted so snugly in its place?

Nor was it in mechanical skill alone that the Mycenaeans were gifted. They were masters of many crafts with many tools. They had saws[1] to cut the hardest rocks, and drills to bore them.[2] They had begun to chisel exquisite designs in marble — witness the sculptured ceiling of Orchomenos.

Figs. 96–103. Engraved Gems from Mycenae (*Eph. Arch.*, 1888, Pl. 10)

In gem-engraving, especially, their achievement left little for their successors to compass. Beginning (it would seem) with the soft steatite or "soapstone," the artist proceeded to a mastery of the harder and more precious stones, — crystal,

[1] Saws of silex have been found at Troy; but as the width of the incision made in the blocks at Tiryns is less than one tenth of an inch the saw in use there must have been of bronze. This saw (according to Dr. Dörpfeld) had no teeth, as "the limestone, and particularly the breccia of Tiryns, belong to the class of hard stones which can only be cut through with a smooth saw and extremely sharp sand (emery)" (*Tiryns*, p. 264).

[2] "The lower end of the drill-auger used at Tiryns must have been a hollow cylinder, and was, in fact, like a strong reed. Emery was employed as with the saw, and the rapid twirling of the drill bored a cylindrical hole in the midst of which a stone core remained standing. This was afterwards broken off; but a stump was often left, which now affords us this interesting explanation." — Schuchhardt, *Schliemann's Excavations*, p. 115.

agate, onyx, chalcedony, carnelian, jasper, amethyst, — which he cut and polished and engraved with a firm hand and a true touch. His range of design is astonishing — scenes of sacrifice and worship; of battle and the chase; of quiet pastoral life, as the cow or doe suckling her young; and of untamed nature, as the lion fondling his cub or rending his prey.

In metal work as well the Mycenaeans appear equally accomplished. With mould and hammer they turn bronze to an infinity of shapes and uses, with ever varying decorations. On the adornment of the person gold is fairly lavished, and consequently in their hands the goldsmith's art attains its perfection. The yellow metal is beaten out into sheets of marvelous delicacy for overlaying grosser fabrics; and on it they stamp all their familiar motives as well as figure subjects exquisite in design and execution. Or the metal is hammered or drawn out into very fine wire for chains, and the like (Fig. 104), and granulation is not only known but freely employed. Glass paste of different colors is inlaid for decorative effect (for example, the ring described on page 184). In a word, we find the Mycenaean artist employing nearly every process known to modern art, inlaying included. Indeed, it is in this process, which has been regarded as among the last achievements of art, that he scores his distinctive triumphs. By inlaying ivory, gold and the like upon bodies of a different material he produces genuine

Fig. 104. Gold Chain from Mycenae Chamber-tomb (1892)

polychrome pictures, instinct with life and reality, such as we see on the dagger-blades. Such is the passion for this kind of decoration that even stone vessels are variegated by inlaying stone of different shades. The walls of dwellings are dressed with coats of lustrous white plaster, and then painted in fresco with figure subjects in vivid and varied colors as well as with merely decorative designs. Finally glass, or rather an opaque glass paste, is known and used in moulding an endless variety of trinkets, which are either left plain or plated with delicate gold leaf.

Of these manifold arts as known and practiced by the Mycenaeans we cannot here treat at length, nor shall we attempt to trace each, step by step, in the course of its evolution. Rather we shall confine ourselves to such study of the subject as may promise to throw most light on the beginnings of Mycenaean culture and on the problem of the race who were its authors and bearers.

Sculpture relatively crude

The stelae of the grave-circle at Mycenae must be either contemporaneous with, or later than, the graves they marked; and yet if we compare them with the offerings from those graves we at once observe, in most cases, a marked difference. They stand apart, and wide apart, in both design and execution. In the lion-hunt on the dagger-blade, for example, there is real vitality and vigor; the composition is bold and free; and the rendering — especially of the animals — is true to nature. The artist's meaning is too clearly expressed to leave a moment's doubt whether he is making lions or dogs. On other objects of gold embossed with animal figures the relief (as on the stelae) is still very low; yet the forms are not only rounded off naturally, but within the outline there are details of anatomical moulding. But on the stelae, we repeat, the forms look as if projected on a board by cutting

away the surrounding parts, so that the relief is not only low, but *quite flat*. Moreover, the design in general betrays great awkwardness, which at times leaves the artist's meaning in doubt: thus on the third *stele* the animal in pursuit is taken now for a lion and again for a dog. Hence the stelae impress one at the first glance as far more archaic than the votives in gold and the like. As this is out of the question, it has been held that the difference can only be accounted for on the assumption that the votives were imported from abroad, while the tombstones were fashioned on the spot by native and still inexperienced artisans. But this assumption is neither necessary nor true. The true solution lies in the simple fact that the sculptor was more backward in his art than the goldsmith.

Sculpture, we know, is influenced in the highest degree by the material on which it works, and the style once formed by the peculiar character of that material often passes over unchanged to works in a material of different character. Thus, long after this, in the sixth and fifth centuries B. C., we find in many parts of Greece reliefs which, like the Mycenaean tombstones, are without a trace of plastic handling. This is due to the fact that in some of those districts stone-cutting was developed out of wood-carving, while in other places the stone itself — whether too hard or too brittle — was not adapted to a precise and sharp rendering of anatomical details.

influenced by wood-carving

This influence may be seen in the tombstones. It is highly probable in itself that wood was among the earliest materials on which the Mycenaean tried his chisel; for this medium lends itself most readily to his favorite motives — first, straight or broken lines, then circles and other geometric figures. The style formed by working in wood has in it, of course, much that is angular and awkward; it

cannot render the lines of the body in their naturally plastic undulations, curving now in, now out, but never perfectly straight. Moreover, the form brought into relief upon a board by cutting away the surrounding surface must of necessity be unnaturally *flat*. Now, these stiff and angular lines, and especially the absolute flatness of the human and animal figures, are characteristic of the stelae. Accordingly, we conjecture that this art had long time exercised itself in wood-carving, and that finally the artisan carried over the method so acquired to sculpture in stone, where he had to reckon with the resistance of a harder material. Evidently the sculptors of the stelae had not yet acquired facility in cutting marble and the commoner sorts of limestone. Hence they preferred this fossiliferous stone, composed, as we have seen, of countless minute shells, and for that reason easily worked, but quite unsuitable for sculpture.

Thus, while sculpture was still handicapped by a traditional wooden method on the one hand, and by the resistance of its new material on the other, it would appear to have found a yet more serious obstacle in the spirit of the age. At all events, there was little demand for large reliefs. Apart from the tombstones, in fact, we have thus far found not one large sculpture — whether monumental or architectural — belonging to the earlier Mycenaean age. Even the graves of the acropolis, destined to hold such store of precious metals, are, as we have seen, very simple shafts, partly lined with rough stone walls.

Metal-working

In contrast with sculpture, at this very period, metal-work was in high favor, and was patronized as perhaps it never was to be again in the history of Greek art. The metals, in general, are rare, and for that reason precious; but their peculiar ductility and

malleability make amends for this stinginess of Nature. That is to say, they can be drawn out in fine wire or beaten into thin sheets, so that a comparatively small quantity suffices for the fabrication of separate articles, or for overlaying objects in a cheaper material, so as to give them the effect of solid work. This quality belongs preëminently to gold, and its lavish employment by the Mycenaeans still challenges our wonder. Almost all their ornaments, as we have seen, were either of solid gold, or at least plated with gold. The dress of princes was covered with trimmings of goldleaf; their cups were, for the most part, of solid gold; their sword-hilts were plated and their sword-blades inlaid with gold.

Of silver we find occasional use, especially in the fabrication of vessels, which are sometimes adorned with figures in *repoussé*, sometimes with inlays of gold; still, its use is comparatively infrequent.[1] Bronze, on the other hand, is in constant requisition — the standard stuff — for vessels, armor, ornaments, and the like.

Silver and Bronze

In an art so much sought after and so liberally patronized, and exercised, withal, on a material so elastic and facile, it is no wonder that in time the goldsmith [2] acquired great skill and produced works of rare grace and symmetry, whereas sculpture — with no such patronage, and working against greater odds — hardly held its

Gradual advance in gold-work

[1] In the "Great Treasure" from Troy there are four jars, two suspension vases, and a dagger of silver, as well as half a dozen flat silver bars (each weighing about 6 oz.), which Dr. Schliemann took to be examples of the Homeric talent. From Mycenae we have the great ox-head, the cup with the basket of ferns inlaid in gold, and a pitcher (Grave IV.); seven vases and cups (Grave V.); and the unique cup with the band of gold heads from a tomb in the lower town (Fig. 117). From Vaphio we have three silver cups, with needles, ear-picks and spoons of the same metal.

[2] The term may include the bronze-smith as well; in the *Odyssey*, iv. 425, 432, Laerkes is at once χρυσοχόος and χαλκεύς.

own. In time, we say; for assuredly it was not at a bound, but by slow stages, that the goldsmith's art attained to the degree of perfection which we witness in the offerings of the Royal Tombs, to say nothing of the Vaphio cups. We have not yet the means to trace its course from the first beginnings; but those beginnings, as we may reasonably conjecture, are not to be sought at Mycenae and Tiryns alone, nor in a very recent past. Apart from its own perfection we have other proof of its high antiquity in its obvious influence on sculpture. Thus, on the stele which we have reproduced in Plate XI. we see interlacing spirals filling the panel above as well as the space about the main design; but this spiral motive is in its nature foreign both to wood-carving and to sculpture. If the generally received theory be a sound one, it is borrowed from the goldsmith,[1] who with the greatest ease coils wire in various patterns and applies these at pleasure to any surface he wishes to adorn. Thus the spiral would be characteristic of a style formed in metal-work; and when we find this motive on the stelae we naturally infer that it had long ago been developed by the goldsmith, and become so familiar as to be copied by the sculptor. And in fact, on the gold and other offerings from the six acropolis graves, there is no other motive we meet so often; but we always find it embossed upon the surface it adorns, never

shown by influence on sculpture

[1] Milchhöfer, *Anfänge der Kunst*, 16 ff. But A. J. Evans (*Primitive Pictographs*, 329 ff.) maintains that "the earliest gold-work as seen in the Akropolis Tombs is the translation into metal of Aegean stone decoration." This conclusion is based on the fact that among his Cretan seal-stones he finds "examples of the borrowing [from twelfth dynasty scarabs, c. 2500 B. C.] of the returning spiral motive." Flinders-Petrie (*Egyptian Decorative Art*, New York, 1895) had already elaborated the same view, tracing the spiral motive "from its simple forms on early scarabs to the most complicated networks upon Egyptian ceilings," and maintaining that the fret patterns are "modifications of corresponding spirals due to the influence of weaving."

fashioned separately and soldered on, as was originally the case, and as it is actually found on gold objects from Troy (second city), whose civilization culminated many centuries before the Mycenaean.[1]

Figs. 105–112. Engraved Gems from Vaphio

Enough has been said to account for the marked superiority of the tomb-offerings as compared with the tomb-stones in the Royal Cemetery at Mycenae; but it is to be noted that at Troy, also, the goldsmith's is found to be the most advanced of all the arts. The fact should not surprise us, for every barbarous or semi-barbarous society — and such was not only the Trojan but the early Mycenaean as well — is characterized by a fondness for excessive adornment of the person with flashing jewels and a passion for the display of costly arms and equipage. And all this is prized not simply for its artistic merit, but

Refining tendencies

[1] An example is the gold hairpin (Fig. 70). Compare the two heavy gold bracelets figured and described by Dr. Schliemann (*Ilios*, p. 495). They are of thick gold plate and nearly an inch broad. One has 72, the other 54, spiral ornaments made of gold wire and soldered on to the plate. To set aside the adverse evidence of these soldered spirals from the Burnt City (now dated by Dörpfeld 2500–2000 B. C.), Evans refers them to the Sixth or Mycenaean city.

even more for its material value. Hence, works of a cheap or intrinsically valueless material — such as wood or bone, or common stone — would be very lightly esteemed. In the later Mycenaean culture, there is a marked advance in this respect, as attested especially at Vaphio. In the tomb treasure there we find but few gewgaws. There are no leaves, nor crosses, nor belts, nor knee-buckles of gold; but the designs of the engraved gems have a real artistic quality, and this is true in a yet higher degree of the two gold cups. This moderation in the offerings of the later graves we have taken to indicate a growing refinement in notions of the future life; but this presupposes an advance in general refinement, particularly in the sense of beauty. An outcome of this would be to deepen the love for art in itself regardless of the material, and so for architectonic decoration by which sculpture was to profit. For it was under this new inspiration the Lions' Gate was reared with its stately relief; the Treasury of Atreus and the tomb of Clytemnestra, with their ornate architecture; and the Treasury of Minyas, with its splendid ceiling. At the same time, graceful vases were shaped out of marble and alabaster, and then carved with reliefs. And, finally, there was a great advance in the art of engraving precious stones — of which we have but rare examples in the earlier period. These varied activities afforded work for the chisel, and enabled sculpture speedily to recover lost ground and presently to rival the goldsmith's art. On the purely material side of his art, the sculptor of the later period knows how to saw, cut, and drill the harder varieties of stone, so that he is no longer driven to employ the soft shelly limestone of his predecessors. In their design and execution, the architectural decorations and reliefs show correct modeling, grace and a plastic character in no way inferior to the

work of the goldsmith. The sculptor's lavish use of the spiral attests the influence of the earlier developed metal-work upon art in general, but in other respects the arts of the sculptor and the goldsmith advance hand in hand throughout the period. This may be shown by a comparison of objects in these two materials.

The Vaphio cups are the masterpieces of the Mycenaean goldsmith, — indeed, of all Mycenaean art.[1] The outer wall is a plate of pure gold, bearing the design in *repoussé*, and riveted end to end at the handle; while a second gold plate gives a smooth lining and is turned over to form a rim. The cups are thus quite seam- The Vaphio Cups

Figs. 113, 114. The Vaphio Cups (height, c. 3¼ in.; weight, 9 oz. each)

less, except at the joining, and this is practically covered by the handle. The first cup has a plain band around the base and brim to frame the design; on the second the design covers the entire surface. But it is the artist's rather than the artisan's work that chiefly concerns us here. Our reproductions sufficiently attest the boldness of his conception and the cunning of his hand; indeed, he has expressed himself so well that he needs no interpreter.

The first scene is a wild-bull hunt among palms; its

[1] "For originality of design and delicacy of execution (they) are unrivaled, except perhaps by the finest goldsmith's work of the Italian Renaissance." — Schuchhardt.

companion piece is a quiet pastoral scene in the midst of olive-trees. In the first the central figure is a bull caught in a net, which is fastened to two trees — naïvely represented in the same plane. On the right is another bull, which appears to be clearing the net at a bound; while on the left a third animal has shaken off one hunter and is tossing another on his horns. In this part of the picture we have the Bull-hunter of the Tiryns fresco over again, but distinctly getting the worst of it; and there are quite kindred designs on two Mycenae gems (Figs. 102, 103).

On the second cup we have the strongest possible contrast in the whole composition and in the individual groups. Over against the enmeshed and struggling animal at the centre of the first composition, we see in the second a tranquil pair with their heads companionably together; instead of the animal in headlong flight, one quietly grazing; and finally — as the very climax of contrast — for the infuriated bull, tossing his pursuers, a brute hobbled and driven away to the sacrifice. The victim is tamed, but bellows out his protest against the shambles, "as when a dragged bull roareth, that the young men drag to the altar of the Lord of Helike." [1]

The composition could not well be more bold or vigorous, and it is wrought out with surprising skill and fidelity, particularly so in the pastoral scene, where the artist has set himself a task distinctly within his powers. The violent action required by the first subject made demands upon him which transcended then, if it does not still transcend, the reasonable limitations of his art; still his bold free hand compels our admiration, even though the life and passion of his picture cannot quite blind us to unquestioned crudenesses and impossible attitudes like that of the bull in the toils.

[1] *Iliad*, xx. 403 f.

Examining now the technique of the Lion-relief at Mycenae, we are at once struck with its marked superiority to the tombstone reliefs in the plastic treatment of the limbs and the rounded outlines. But in comparison with the Vaphio bulls, the lions are in low relief and show a far less distinct articulation, though we must not forget that their limbs were brought out more distinctly by the use of colors which have now faded away. The brush helped out the chisel here, as we know it did in all early Hellenic art. But even in their present state the relation between the lions of Mycenae and the bulls of Vaphio is obvious, particularly in the delineation of the muscles. The artist of the goblets had grasped the great importance of these organs in the movement and action of men and animals; and, to express his notion of them clearly and objectively, he made the muscles stand out with an excessive and unnatural tension, and that, too, where the situation demanded no such intensity. This is characteristic of archaic art in general, which, in its effort to represent an object distinctly and clearly, often runs into exaggeration; but it is peculiarly characteristic of Mycenaean art in its later epoch. For example, the lead statuette found in the vaulted tomb at Kampos, and reproduced in Plate XVII., shows the same exaggerated tension in the muscles of the arms and legs. This is true also of the animal figures on many engraved gems, which in other respects, as in the plastic treatment of the body and the life-like posture, are hardly inferior to the Vaphio bulls. Yet the sculptor of the lion-relief is on the same road — although he has not advanced so far — with the artists of the cups, the Kampos statuettes and many of the gems. His conception and method are the same as theirs, only his power of expression is less developed. And this is another indication that his work is earlier than theirs.

The Lion-Relief

We see, then, that the glyptic art of Mycenae in its later period, as represented by the vaulted tombs, had developed a uniform style, whether it wrought in gold or in stone. The lion-relief stands between the gold votives (at least the older ones) from the acropolis graves and the Vaphio cups. It resembles the former in the flatness of the relief and in the lack of anatomical detail, while it approaches the latter in the characteristic delineation of the muscles.

Kampos statuette and gems

Of quite equal importance with these cups is the Kampos statuette, — indeed, its size makes it in some respects more important, — and so in many instances are the animal figures of the engraved gems. This continuous progress and homogeneous style, attested in works of varying material and *provénance*, prove that not only the lion-relief, the Vaphio cups, the Kampos statuette and the engraved gems are the work of native artists, but that the gold offerings from the acropolis graves (in their totality) could not have been fabricated elsewhere than in Greece. Had they been of foreign origin, their influence upon native art must have been very different from what we actually see. Instead of immediate growth and progress, for a time in all probability we should have to look for deterioration, unless we assume that native artists were able at once not only to copy with fidelity the exotic art but to perfect it as well.

All works of native art

Oriental influence admitted

We do not, however, deny that among the gold votives from the acropolis there may be some actually imported from the Orient or imitations of such imports produced in Greece. For the influence of the Orient — and by the term we mean chiefly Egypt and the countries of the Semitic world, Syria, Babylonia and their neighbors — is shown not only by the golden images of Aphrodite with her doves and the dove-temples in gold-

leaf, but also by the sphinxes, griffins and divers decorations as well as by certain types of design. Thus on the solid jasper ring (Fig. 54) the subject is not strictly novel on Greek ground, for we have seen Artemis represented in a similar *rôle;* still the lions and the lion-queller — typical Mycenaean as he is — recall works of Babylonian art.[1] More obvious still is the foreign influence in the design upon each side of an inlaid dagger-blade found in Grave V. It is again a hunting-scene, but the hunters here are cats chasing ducks alongside a stream, with fishes swimming in it and papyrus or lotus plants growing on the banks. Here clearly the artist intends to portray a scene of wild life on the Nile.[2] Yet the dagger is neither Egyptian nor Phoenician work, but decidedly a Mycenaean product, whose author, nevertheless, must have had before his eyes a foreign prototype. It is commonly held, indeed, that this process of inlaying, as we find it employed in the dagger-blades and kindred works, was introduced into Greece from Egypt.

A Nilotic subject

Inlaying not of Egyptian origin

Fig. 115. Inlaid Dagger-Blade (Grave V.)

[1] An Assyrian gem, published by Rossbach (*Annali dell Instit.* 1885, p. 195, Pl. G, 8) presents a similar design.

[2] "In many of the pictures of the New Empire, a tame cat accompanies the sportsman and brings him the fallen birds out of the thicket into the boat" (Erman's *Life in Ancient Egypt*, p. 236, London, 1894). On a funeral urn from a beehive tomb at Legortino, in Crete, is painted a design — a duck pursuing butterflies among water plants — in which Evans recognizes the same Nilotic origin (*Academy*, July 18, 1896).

For proof we are referred to certain weapons found in 1860 with the wonderful jewels on the mummy of the Egyptian queen Aah-hotep (circa 1600 B. C.). In this queen's funeral armory — which appears to show that even women had to go armed into another world that was peopled with foes — we find two poignards and a war-hatchet, whose blades are, in fact, adorned somewhat after the Mycenaean fashion.

One of the dagger-blades is thus described:[1] "The edges of the blade are of massive gold; the centre of black bronze damascened with gold. On one side is the solar cartouche of Ahmes, below which a lion pursues a bull, the remaining space being filled in with four grasshoppers in a row. On the other side we have the family name of Ahmes and a series of full-blown flowers issuing one from another and diminishing towards the point." It will be seen from this description that the technique is not that of the Mycenaean inlayer, and the difference has been already observed by Schuchhardt.[2] In the Egyptian work, the centre only is of black bronze, while the edges of the blades are of solid gold, and the designs are outlined by fine strips of gold set in grooves in the Damascene style.[3]

Inlaying or incrustation, in general, may be regarded as one of the oldest arts. Indeed, so few and simple are the materials it requires to start with that even the prehistoric lake-dwellers of Switzerland are found inlaying earthen vessels with tin-foil. For instance, an earthenware dish or plate about 16 inches in diameter, found in the pile dwellings of Cortaillod, in Lake Zug, is thus described:[4] "The ornamentation consists of

employed by Swiss lake-dwellers

[1] Maspero, *Egyptian Archaeology*, p. 319.

[2] *Schliemann's Excavations*, p. 308, 2d German ed.

[3] Cf. Erman, *Ancient Egypt*, 461 f.

[4] Ferd. Keller, *Lake Dwellings*, ed. Lee, p. 144.

plates of tin as thin as paper, which form a striking contrast with the black ground of the vessel. These thin plates are also ornamented with impressed lines, which, after the plates were fixed, were engraved or indented with a blunt style. By means of this additional work, the tin, which apparently was simply pressed into the earthenware

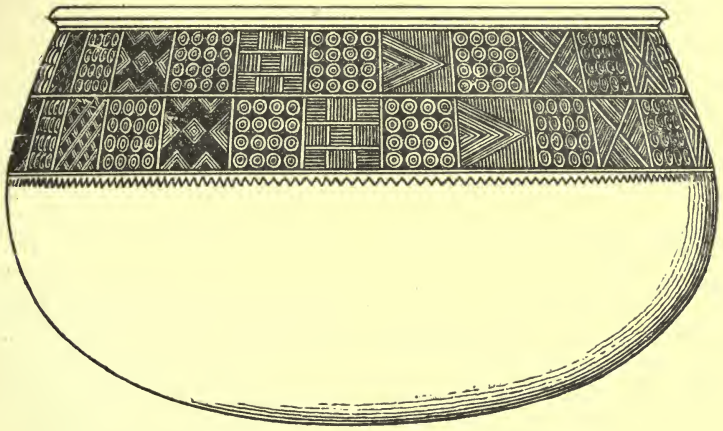


Fig. 116. Earthen Vessel inlaid with Tin-Foil (Wangen)

while yet soft, was made to adhere more closely to the clay." A second example from Wangen, on Lake Constance (Fig. 116), exhibits a somewhat different treatment analogous to the "graffito" method in fresco painting; instead of laying on the ornaments in strips and plates, a "sheet of tin-foil was laid on the black ground, and the parts required to be black were scraped off by a point or a knife." On this black ground the decorations often stand out with great vividness.[1]

Now we know that the Mycenaeans, at the height of their civilization, continued to cover bone buttons with gold-leaf precisely as these Swiss lake-dwellers inlaid their

[1] *Ibid.*, pp. 230, 291.

earthen vessels with tin-foil, with the sole difference that on their harder material (bone) it was necessary to engrave the design before applying the gold. If we assume, then, that the Mycenaeans made their first essays with work like the lacustrine pottery, we must indeed admit a vast advance from the earthen pot inlaid with tin-foil to the silver cup, enameled and inlaid with a band of genuine Greek profiles between two rows of inlaid gold leaves (Fig. 117). But it is an advance in refinement rather than a change of direction; and the interval is hardly wide enough to require a bridge from Argolis to Egypt to span it.

Another sword clearly akin to the Mycenaean was found

Fig. 117. Inlaid Silver Cup from a Mycenae Chamber-tomb

Inlaid sword from Thera

on the island of Thera, and is now in the Museum at Copenhagen. The blade is inlaid on both sides with little gold axes, set apparently upon some resinous substance. From its similarity to the Mycenaean swords, this too might well be regarded as a work of Mycenaean art, particularly as we have no definite information about the spot where it was found or the objects found with it. But for all that, it is apparently a genuine island, rather than Mycenaean, product, inasmuch as among the finds at Mycenae and Tiryns there is no trace of an axe

of the peculiar type here represented. Perhaps the nearest approach to it is the axe on one of Mr. Evans' seal-stones—a white carnelian — from eastern Crete (Fig. 140). But, as we shall presently see, it is probable that, early in the second millennium B. C., Thera was occupied by a Mycenaean stock,[1] mixing there with an earlier island race whose civilization influenced them as well as their kinsmen of Continental Greece. The island art in turn is under the influence of the still older Trojan art. And at Troy not only do we trace the form of axe immediately preceding, in the process of evolution, that of the Thera blade, but we find in certain Trojan products a still closer analogy with our inlaid daggers. We refer to the very primitive hand-made Trojan pottery which often

Influence of Troy

Fig. 118. Inlaid Sword from Thera (at Copenhagen)

has an incised linear ornamentation on the rim or inside, the lines being filled in with white paste, while all the rest of the surface is a lustrous black. According to the best authority on the subject,[2] this lustrous color was obtained by washing the vessel in liquid resin and then exposing it to the action of fire until the resinous coating was carbonized. But in much the same way the lustrous black surface of the inlaid daggers was produced; that is to say, the blade, or the separate plate intended to receive the design, was covered with some black substance in a fluid state, and

[1] We use the term, as already explained (page 11), to designate all Greek peoples who shared in the Mycenaean civilization, irrespective of their habitat.

[2] Hostmann, in Schliemann's *Troja*, p. 33.

this coating was afterwards "set" by a gentle heat.[1] The black liquid employed by the artists of the daggers was probably not resin but some substance better suited to their purpose. For the rest the similarity of treatment at Mycenae and Troy seems so close that the sole apparent connecting link between the Mycenaean and Egyptian daggers — namely, the lustrous black background of their designs — may well be a matter of mere coincidence.

Vessels every way similar to the primitive Trojan ware, as we shall see, are found in Greece as well, and indeed continued to be fabricated there long after more advanced styles of pottery had appeared. There is no reason, then, why we need deny to the art of inlaying, as exemplified in the daggers and the silver cup, a Hellenic origin, whether on the mainland or, with greater probability, in the islands.

Fresco painting

Although we have seen reason to believe that lime-plaster is alluded to in the Odyssey, in neither of the epics do we meet with mention of wall-paintings even in princely palaces. Hence, it might have seemed a reasonable inference that such painting was of post-Homeric origin. All the more surprising is the revelation made at Tiryns and Mycenae, that centuries before the Homeric epoch there were palaces, and even private houses in Greece, whose walls were covered with polychrome designs. But even before the Argive palaces were uncovered, fragments of wall-painting had come to light in the island of Thera — the only spot in the Greek world (as we have seen) which has as yet produced a fellow to the inlaid daggers of Mycenae. These paintings were discovered under conditions that could leave no doubt of their high antiquity. They were found, namely, in the ruins of houses buried

at Tiryns and Mycenae

at Thera

[1] Athanasios Koumanoudes, in Ἀθήναιον, ix. p. 166.

under masses of pumice and lava thrown up by a volcanic eruption which geologists assign to a date as remote as 2000 B. C.[1]

Just this remote antiquity, together with the fact that at the time of their discovery they stood absolutely alone in their kind, kept these Theraean paintings from being recognized at their real value in the history of Greek culture.

The house walls at Thera were built in the same way as at Mycenae and Tiryns, while the roofs were composed of beams laid from wall to wall and close together, these being covered in turn with a layer of earth and stones. To this style of roofing there is one exception. In the centre of a large chamber (16 by 20 feet) was found a circular block of stone, which had evidently served as the base for a wooden column; and as the cross-beams, inserted in the walls of this chamber, and actually found in their original position, have a uniform upward inclination to the centre, we cannot escape the conclusion that these beams carried a conical roof with this column as its central support. The walls of these chambers are coated, as at Mycenae and Tiryns, with a plaster of pure lime unmixed with sand, which receives a smooth finish and is then painted with designs in simple colors — black, white, red, blue and yellow. These designs at Thera are limited to simple bands of color, flowers and foliage, while the frescoes of Mycenae and Tiryns, as we have seen, advance to a vivid portrayal of human and animal life. This alone would indicate the higher antiquity

[1] This is the chronology of Fouqué, who studied the geological formation of the island during his excavations there in 1866, but his views have recently been called in question by Dr. Washington ("On the Possibility of Assigning a Date to the Santorini Vases," *Am. Journal of Archaeology*, 1894, p. 504 ff.), and Cecil Torr (*Memphis and Mycenae*, Cambridge, 1896, pp. 70 ff.). On the prehistoric remains of Thera, see Fouqué, *Santorin et ses Eruptions;* Furtwängler and Löschke, *Myk. Vasen.*

of the Thera frescoes, which is confirmed by the fact that the pottery found with them is of the older Mycenaean style, whereas the frescoes of Mycenae and Tiryns undoubtedly belong to the later or latest period of Mycenaean art.

This, however, is far from proving that wall-painting flourished earlier in Thera than in Argolis. At Thera we simply see the art in a very archaic stage, while in Argolis we catch glimpses of the maturer art which adorned the palaces of Mycenae and Tiryns at the time of their destruction. These frescoes, we know, are easily injured, and require frequent renewal — witness the hearth of the megaron at Mycenae; and it is reasonable to believe that if we had those old palace walls intact we should find them palimpsests, as it were, of painting upon painting, reaching back toward the primitive stage of Thera.

In the absence of positive data for determining even the priority of settlement in Argolis and Thera, we certainly are not in a position to say which of the two led the way in inventing — if it be of Hellenic invention — or in borrowing this art. At Troy, indeed, lime-plaster is unknown in the second city, and the walls, usually of unbaked brick,[1] have no coating but the same clay mortar in which they are laid up, and which serves at Mycenae and Tiryns as a rough coat or background for the lime-plaster. In Egypt and Chaldaea, however, we find plastering and wall-painting in free use from the earliest times, and hence it is probable that this art was brought into Greece from the Orient by the Phoenicians. In that case Thera would naturally be the first to receive it, and Argolis would follow suit.

We now come to a form of art of far wider distribution

[1] In the sixth city, now known to be of the Mycenaean age, the house-walls are regularly of good, sometimes of excellent, stone masonry.

and one that has left us an unparalleled wealth of examples. Of Mycenaean pottery in its varied forms and uses we have already spoken briefly.[1] We have now to consider it not on the plastic side, but with regard to its decoration. Into the rather complex classifications of Mycenaean vases we need not go very far.[2] Generally speaking we may distinguish two classes: namely, *Monochrome* and *Polychrome* pottery. The Monochrome pottery is that which either retains the natural color of the clay (red and yellow) or is blackened by firing. It is, as a rule, coarse and clumsy like our commonest earthenware, but sometimes of finer clay with a smooth finish. The black ware especially is often decorated with simple incised ornaments; sometimes even with a serpentine line of white about the neck. Pottery of this class is found at Troy, in the Aegean islands, at Tiryns, Mycenae, on the Acropolis of Athens, at Thoricus, Eleusis, Aphidnae, Orchomenos in Boeotia, in Thessaly, etc., but the abundance and variety of finds point to Troy or the Aegean as the centres of production. Indeed, some of the finer monochromes found on

Ceramic Art

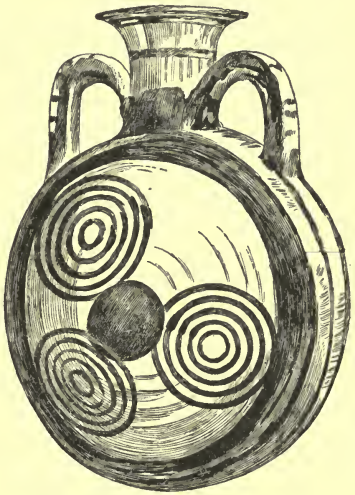


Fig. 119. Jug from Mycenae

Monochrome Vases

[1] See page 75 f.

[2] The main authority is Furtwängler and Löschcke's *Mykenische Vasen: Text* and *Atlas*, with 430 examples. Of these we have selected several examples (Figs. 121–130), with reference primarily to design, only secondarily to form. For an excellent but brief account, see Edward Robinson's *Catalogue of Greek, Etruscan and Roman Vases in the Boston Museum of the Fine Arts.*

the Greek mainland or in Peloponnesus are so clearly of the Trojan type that we may assume their importation from the Troad. And apparently this importation continued even after Greece had begun to export to Troy her fine glazed ware.

The second class of vases is distinguished by polychrome painting, applied either (*a*) directly on the clay ground, or (*b*) over a lustrous varnish. In the first group (*a*), the ground tone is red or pale yellow, at times greenish, on a smoothly finished surface, and the colors used (all dull in effect) are black, red, chestnut, chestnut-red, deep red and grayish-white. The decorations are mostly linear, ranging from straight lines to spirals (Fig. 120), but natural objects also occur — as plants, birds, stags, — even the griffin. Marine life, as usual, preponderates. The examples of this group, which is peculiarly archaic, are comparatively rare. They are found, however, in Argolis, Attica, Aegina, Boeotia, and the Aegean Islands — not indeed in the graves of the primitive islanders (Carians), but in strata belonging most probably to the later Hellenic colonists. This does not warrant the conclusion that vase-painting is an original Hellenic invention, for dull-painted pottery occurs also in other countries (as Cyprus and Egypt), from which the Hellenes may have borrowed the art. In the Islands, however, it seems to have been developed and transformed into a distinctive type, employing for the most part

Painted Vases: Unglazed

Fig. 120. Vase from Vaphio. H. 4½ inches

geometrical decoration, but advancing to the representation of natural objects with a preference for marine life. Fabricated in many quarters, these vases betray local peculiarities. Of the islands, Thera appears to have been an important centre of production, and her products we find exported not only to neighboring islands, as Amorgos, but as far as Aegina and Argolis. At least M. Fouqué reports finding at Mycenae a fragment of Theraean pottery, and Mr. Staes has lately found at Aegina a pitcher quite like those of Thera in clay, form and decoration.

Fig. 121. Unglazed (Mycenae)

Fig. 122. Bowl, H. 3½ inches (Mycenae)

With the second group of painted vases we come upon an entirely new factor in art-history, the application of a lustrous varnish to the body of the vessel — a process used only by Hellenes and their Etruscan and other pupils. Of these lustrous-painted vases, specialists have distinguished four orders, basing their classification on (1) the relative fineness of the clay, (2) the tone of the varnish, (3) the painters'

Glazed

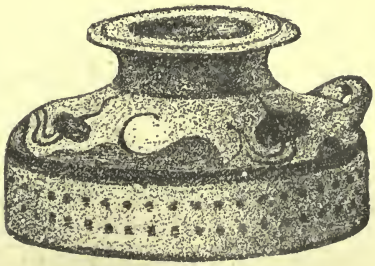


Fig. 123. Dark Brown (Grave III.)

colors. Of these four orders, the first hardly occurs on the Greek mainland, and may be regarded as a local island product, while the fourth belongs to the decadence of Mycenaean ceramic art. It is the second and third orders, really contemporaneous, which represent the acme of Mycenaean culture and its widest diffusion in the Mediterranean. Without minute subdivision, we may note that there is clear progress in the plastic proper, if we may so designate the mixing of the clay and the moulding of the form; and with this advance the decorator keeps step in varying his ground tone, enriching his colors and rising to higher ranges in his design. At the best he gives a beautiful warm yellow tone upon which his tints range from pale yellow to a rich dark brown, all enriched and fixed by careful firing. We still have the linear design, but nature is more and more drawn upon. From plant life he paints the ivy, the water-lily, the iris and the palm. The sea yields him a great store of subjects, vegetable and animal, from sea-weed and

Fig. 124. Ialysos. H. 6 in., dark red on yellow

Fig. 125
Tripod (Ialysos). H. 10 in.

shells to the nautilus (most familiar of motives) and fishes. From these he advances to higher forms of life — birds, quadrupeds, and even man, but these are as a rule limned with a very rude hand. Respecting the chronological sequence of the great orders of pottery there is no uncertainty. The monochrome (which continued to be produced alongside the polychrome ware) is of course the earlier. Not infrequently, as we have seen, it has so close a resemblance to the primitive Trojan pottery, both in form and technique, that it is quite indistinguishable from it.

Range of Design

Fig. 126. Cup (Ialysos)[1]

Fig. 127. Canteen (Cyprus) H. 8 in. Lustrous red

Of the polychrome pottery the first group is an evolution of the simple monochrome and, while still retaining the natural tone of the clay, it marks an advance in the use of the wheel and in the substitution of colors for plastic or incised decoration. The prevailing designs, notably the free use of the spiral, bear witness to the influence of metal technique.

Influence of Metal-work

This influence is still more marked upon the lustrous polychromes of the second

[1] Red on yellow — upper frieze of five waterfowl, lower of five fishes. A gold cup from Grave III. offers a close parallel in form and design, except that both bands are made up of fishes (*Mycenae*, No. 317).

group. The designs of these vases repeat, not to say copy, the familiar subjects of the Mycenaean goldsmith. There are the same spirals; the same plants, especially the palm; the same abounding marine life. And even the lustre of the tints seems to recall the gleam of the gold. There can be no doubt, then, that these lustrous painted vases are the latest of all; and, in fact, this has been substantially established by the excavations; for these vessels are usually found in the most recent strata, while the vaulted and chamber-tombs at Mycenae and elsewhere have yielded hardly any other kind.

Fig. 128
False-necked Amphora (Crete). H. 4½ in.
Brown on yellow

They represent the acme and the decline of Mycenaean art, and hence are found wherever the influence of Mycenaean culture extended. We may in general terms say that the country which first produced these glazed vases was Greek; indeed, Furtwängler holds that among all ancient peoples, the Greeks alone, and their acknowledged pupils, had mastered the secret of them.[1] Further, among possible Hellenic ori-

A Greek art centring in Argolis

Fig. 129. Ivy Vase (from Athens)

[1] "Nur Griechen, und wer es nachweislich von ihnen gelernt hat, z. B. Etrus-

gins, weighty considerations appear to point to Argolis. In the first place the wealth of marine life represented even on the unglazed vases (of the first group) attests their fabrication in the neighborhood of the sea. Again, we know that Argolis was perhaps the chief producing and exporting centre for this kind of pottery; the vases found there exceed both in number and variety all other similar finds, and give us an unbroken series representing every step in the development of the style.[1]

Fig. 130. False-necked Amphora (Mycenae). H. 11 in. Red. Frieze of rosettes and of swans.

This question of origins brings us back again to the monuments of Mycenaean architecture, and particularly to its crowning achievement in the vaulted tomb. Whence came this notable type? Of this problem Professor Adler[2] offered a solution which has been widely accepted, but from which we must dissent. He holds, namely, that the domed tomb "is the last monumental form of a most quaint national mode of architecture — that of Phrygia," as we find it described by Vitruvius from

Architecture

Origin of Beehive Tomb

ker, Iapygier und gewisse cyprische Fabriken, haben mit glänzender Firnissfarbe gemalt."—*Myk. Vasen*, p. vii.

[1] "They [the Mycenaean painted vases] seem to be the outward and visible sign of a civilization, of which the roots lay in Argolis, but the branches spread over the south of Greece and across the islands to the Asiatic coast." — Percy Gardner, *New Chapters of Greek History*, p. 88.

[2] In his introduction to Schliemann's *Tiryns*.

Greek sources. "The Phrygians dwelling in valleys were wont to construct their dwellings underground by excavating a pit on a hill and setting up posts over it in a conical form and then binding them together at the top. They covered these posts with reeds and brushwood, and then put upon the whole the greatest heap of earth it would bear. The entrance was made by cutting a passage from below, and such dwellings were very warm in winter and very cool in summer." These earth-and-wood huts Adler conceived to have been translated first into brick and then into stone construction; while the peculiar form of primitive dwelling is carried by Phrygian Pelops into Peloponnesus as the proper type of the royal tomb.

Now it is a familiar fact that primitive man did model the dwelling of the dead upon the habitation of the living. But to support Adler's hypothesis we ought to find either the conical hut in Greece or the domed tomb in Phrygia. For, first, no people ever copied another people's dwellings in the construction of their tombs, and certainly the Phrygian huts described by Vitruvius, and the Armenian ones of Xenophon,[1] were not of a kind to invite such copying. And, on the other hand, tombs worthy of comparison with the Mycenaean tholoi are yet to be found in Phrygia or anywhere else in Asia, Caria alone excepted.[2] But even the Carian tombs differ materially from the Mycenaean; and, what is more, they are much later than the Mycenaean and in all probability are derived from them

Not Phrygian

[1] *Anabasis*, iv. 5. 25: "The houses were underground structures with an aperture like the mouth of a well, but broad and spacious below. The entrance for the beasts of burden was dug out, but the human occupants descended by a ladder." Here family and flocks herded together. Modern travelers tell us that one can still ride over such Armenian villages unaware of their existence unless he stumble on a smoke-vent. (Cf. Vollbrecht, *l. c.*)

[2] Paton (*Journal of Hellenic Studies*, viii. 64 ff.).

rather than the reverse. Perrot, who had favored the Carian derivation of the domed tombs of Greece, now admits that those tombs are "distinguished from the Asiatic specimens, with which they have been compared, by marked and numerous peculiarities."[1]

Its prototype, the conical hut, Aryan property

Beside, the simple circular hut was once common to all Aryan peoples — indeed, we can trace it on Greek ground, at least in the Islands, and at the very period under discussion. Many years ago there was found on the island of Melos a stone box, raised on four legs (Fig. 133). The front, curiously interlocked with the familiar spiral, shows an entrance with a pitched roof thatched with close-packed rushes. Of the other three sides of the quadrangle, each is composed of three circular huts (counting the corner huts twice). Here we clearly have a model of a pile-dwelling settlement. A second stone box with its cover, apparently representing a circular hut with a conical roof, has been found at Amorgos. Of both these we shall speak further on. At Thera, again, we have met with a chamber with a conical roof supported by a central pillar; and we may be sure that such a roof was invented in the first place not for a quadrangular, but for a circular, building. And indeed Fouqué informs us that the inner corners of every room at Thera exhibit a curve, and he seeks to account for this by the clumsiness of the builders and the settling of the walls from the decay of the wood. But it appears far more reasonable to ascribe it to the force of immemorial habit in building circular huts. Huts with passages, substantially as described above, are found also in countries remote from Greece and Phrygia, for example, in Lapland and Siberia, where we should naturally look for them, — the

[1] *Mycenaean Art*, ii. 42.

type being especially adapted to a rigorous northern climate. Partially underground, and above ground covered deep with earth like the "dugout" of the American frontiersman, these huts cost little and keep out the cold, while their passageways afford shelter for the flocks which winter with the family. In huts like these, it would seem, the peoples of northern Europe once dwelt, for tombs approaching the Mycenaean type are found in Scandinavia and elsewhere.[1] There is, then, no reason for regarding this type as peculiar to the Phrygians; any rigorous climate affords a sufficient *raison d'être*. And there is nothing in the way of our assuming that there was a time when the Mycenaeans likewise lived with their herds in similar earth and wood huts half sunk in the ground. True, the ordinarily mild climate of Greece does not drive the inhabitants to seek shelter from the cold in caves; and hence we may safely conclude that the people, whose vaulted tombs perpetuate the type of those huts, came into Greece from more northern countries.[2]

Gradual evolution of tholos and chamber-tomb

From these primitive huts they did not, of course, proceed immediately to the building of vaulted tombs, for these presuppose no slight advance in architecture. Rather they began by hollowing out cave-like sepulchres such as we have noted in the smaller and simpler rock-chambers. The subse-

[1] Lubbock, *Prehistoric Times*, p. 53. In Scotland; Perrot & Chipiez, *Mycenaean Art*, ii. 42, note.

[2] Against the exclusively Phrygian derivation of these tombs, as held by Adler, see Orsi (*Urne funebri* in *Monumenti Antichi*, i. 217 ff.), and Leaf (Introd. to Eng. trans. of Schuchhardt's *Schliemann's Excavations*, xxvii.). "The conical hut was beyond all doubt the primitive Aryan dwelling-place, and was in no way peculiar to the Phrygians. It was therefore as an inheritance from their remotest ancestors and not as an importation across the Aegean that the Princes of Mycenae took the beehive shape of the old royal dwelling and eternalized it in the royal tomb."

quent development took two directions, one of them ending in the quadrangular chamber-tomb with a pitched roof, while the other culminated in the tholos. It is evident that the former is connected with a change supervening in the very type of the dwelling — a transition from the circular hut to the quadrangular house with beams rising aslant from two, or occasionally from all four walls, to form a gable or hip-roof. The vaulted tombs are certainly all later than this transition, but they preserve the original form of the hut both for traditional reasons and as a practical necessity, since quadrangular structures of such dimensions and built of stone would have been difficult to roof over.

Two types of tomb point to race difference

The radical difference between these domed and chamber-tombs and the simple shaft-graves, as we find them in the Mycenaean citadel, points clearly to difference of race in the peoples who fashioned them. The race that copied in stone their conical huts to serve as royal tombs could hardly have been the same who laid their princes in rude pits and heaped the earth above them. The men who sunk the shaft-graves must have belonged to another race — or at least another stem — which had been early wonted to a different type of dwelling. And, in fact, we have already observed at Mycenae a type of dwelling which differs from the earth huts, as radically as the shaft-grave differs from the beehive or chamber-tomb. These are the two-story* houses, whose ground-floors are without either door or window and must have served simply as storerooms, while the upper story alone was used as a dwelling. That the genesis of these houses must have differed widely from that of the sunken huts is self-evident. Now we know that the ancient Italians built their houses on raised foundations. And it is an ascertained fact that

two-story houses whose ground-floors were used solely to stable the cattle were customary among the Germans, Celts, Slavs, and even among the Aryans of India; that is to say, among nearly all the peoples of the Indo-European family. And, beside these two-story houses built on terra firma, we find also in Italy, Switzerland, Austria, Germany and elsewhere, remains of primitive lake-dwellings — that is to say, of houses built upon platforms of piles driven into the bottom of a lake or marsh. If now we are right in tracing the two-story building back to the primitive pile-dwelling, then we may conclude that a branch of the Mycenaean stock, to be distinguished from another branch whose original dwelling was the earth-and-wood hut, had once been lake-dwellers, and that their two-story stone houses were derived from the dwellings built on wooden piles above the water. Let the visitor to the Mycenaean acropolis observe the group of buildings excavated in 1891 and 1892, and now under discussion, and let him fancy the people occupying the upper stories, — the lower being unoccupied, — and flinging down through ladder-ways or chinks in the floor the leavings of the table and other refuse, and he will certainly be reminded of ancient and modern descriptions of the lake-dwellings. Of these we quote Herodotus' account[1] of the Paeonian inhabitants of Lake Prasias in Macedonia. "Their manner of living is the following: Each has his own hut, wherein he dwells upon one of the platforms, and each has also a trap-door giving access to the lake beneath; and their wont is to tie their baby children with a string, to save them from rolling into the water. They feed their horses and their other beasts upon fish, which abound in the lake to such a degree that a man has only to open his trap-door and to let down a basket by

[1] v. 16, Rawlinson's translation.

a rope into the water and then to wait a very short time, when he draws it up quite full of them." Similar accounts are given by modern investigators of these settlements.

To this primitive lake-dwelling contingent of the Mycenaean people, then, we must apparently attribute the shaft-graves; but of this race we shall speak in the next chapter.

What now is the bearing of all this on the palaces of Tiryns and Mycenae? While these royal dwellings have not the remotest resemblance to the round huts, they also differ in prime essentials from the two-story houses. The palaces are, first of all, ground-floor buildings; and, if they have upper stories, these are confined to a portion only of the ground area and of quite secondary importance. The main apartments, the Men's and Women's halls with their adjuncts, are on the ground-floor. Must we, then, assume an origin for the palaces quite independent of the earlier dwellings? Probably not. For if we conceive the lake-dwellings as they are represented by the Melos box — and it is undoubtedly a model of a pile-settlement — then we cannot but recognize a considerable resemblance between them as thus grouped and the palaces. In fact, the sole essential difference — and that not difficult to account for — would be, that in the palaces most of the rooms about the court are converted into open colonnades. So it is easy to explain why the palaces are, as a rule, confined to the ground-floor. On abandoning the lakes and settling on dry land, the head man or king — if we may carry so great a word back to so rude a state — would be the first to feel the need of more room, and so the first to descend from his platform and build his house on solid ground and on a larger plan. At the same time it is not improbable that, in rearing the rather high substructions upon which the palaces of Tiryns and Mycenae are

From pile-dwelling to Palace

built, they were influenced not only by considerations of practical utility but by lacustrine tradition as well.

Be that as it may, it is certain that the final evolution of the palace owed something also to foreign influence. In

The Palace of Troy

the second city at Hissarlik, heretofore taken for the Homeric Troy, but now known to be its fourth predecessor and so possibly a thousand years anterior to the Mycenaean age, are remains of a palace which agrees in essentials with the Mycenaean type. As at Tiryns we pass from an outer court through a gateway into an interior main court upon which opens the Men's megaron, so before the palace at Troy, it appears, lay an open square from which one entered the court by a gateway on the same general plan with the propylaea at Tiryns but for the absence of columns. The portal at Troy, namely, is a gateway covered by an outer and an inner porch, the latter with antae bases still in place, but without the columns which are still unknown to this second city, as with a single exception they continue to be to the sixth or Mycenaean city. Across the court from this gateway lay the megaron of the men, composed simply of a prodomos or vestibule open to the front and the great hall; that is to say, it agrees with the simpler Homeric megaron, whereas the palaces of Tiryns and Mycenae have a vestibule distinct from the prodomos or anteroom. Again, in the Trojan palace we find at the centre of the megaron proper a circular hearth some thirteen feet in diameter, or a little larger than that at Mycenae, but pillars there are none, either about the hearth or about the entrance hall.

Lying alongside of this megaron is a smaller building, with all the elements of the Mycenaean megara, namely, the open vestibule, anteroom and hall. These were probably the women's apartments.[1]

[1] In the larger megaron the vestibule is 33 feet square, the hall 33 by 66

From traces of other houses on the same general plan, we may conclude that this type was quite familiar to the founders of the prehistoric city on Hissarlik which Dörpfeld assigns to the latter half of the third millennium B. C. And it differs from the Mycenaean type only in the absence of pillars, which is a mark of high antiquity. For the rest the resemblance is so close that they cannot possibly be considered independent of each other. To account for the resemblance, it has been said[1] that the type was introduced from Egypt into the Troad and Greece, but that, in keeping the pillars which the Trojans discarded, the Mycenaeans adhered more closely to the foreign model. But, in fact, there is no very close correspondence between the Egyptian house and our palaces; and, if there were, it quite fails to explain how the Trojan princes, dwelling on the foothills of well-forested Ida, came to discard the column — so universal in Egyptian architecture — and to discard it so systematically that neither in the hall nor in the porticoes nor in the gateway is there any trace of its use. For the present, then, we can only affirm that in ground-plan the palaces of the Mycenaean age have a striking resemblance to that of Troy, but that, being many centuries later, they show a significant advance upon it in the use of columns.

Of Mycenaean type but at an earlier stage

without columns

But this use of columns at Tiryns and Mycenae, as we have seen, is an important factor in the problem of roofing there; without the four pillars about the hearth there could be no clere-story elevation to carry off the smoke and light the shadowy hall. In the absence of such columns the Trojan megaron — though much

or clere-story

feet; the smaller building is 15 feet wide, and the rooms are respectively 20, 24 and 29 feet deep.

[1] O. Bie, *Jahrb. des Arch. Inst.*, 1891, p. 1 ff.

larger than that of Tiryns — must have carried a single roof, and that, as the excavations indicate,[1] horizontal. The gold-leaf temples from the royal graves at Mycenae, as we have seen, show a roof similar to that assumed for the Mycenaean megara; and, since these are models of the Aphrodite temple as we know it at Paphos, we infer that the Mycenaeans probably learned the clere-story principle from the Phoenicians.

The column at Thera

Though unknown at Troy, the pillar is not wanting at Thera. There we have found evidence for one central column supporting a conical roof, exactly as would seem to have been the case in the side chamber of the Atreus Treasury at Mycenae. Closer connection there may have been between the Mycenaean and the Theraean column, but at all events they represent two different stages of evolution from the same original. In the first place the column at Thera, judging from fragments only, seems to diminish downward just as we find with actual pillars or copies of them at Mycenae, Spata and Menidi; and a terra-cotta vase-stand-ard with seven annular mouldings seems to point to the annular or spiral finish of the pillar.[2] Now the genuine spiral pillar was not unknown at Mycenae; we have it distinctly shown on the engraved gem (Fig. 131), and a further refinement of it

Fig. 131
Gem from Mycenae

[1] "There is no trace of tiles, while the floor is strewn with a thick layer of clay and charred rafters as well as large pieces of wood. It therefore appears certain that, just like the houses of the present inhabitants of the Troad, the houses of all the five prehistoric cities which succeeded each other here were covered with flat roofs of beams on which were heaped a thick layer of clay as protection against the rain." — Schliemann, *Ilios*, p. 214.

[2] Fouqué, *Santorin*, p. 117. Cf. Perrot & Chipiez, *Myc. Art*, ii. 365 f. and Fig. 450.

on the ivory mirror-handle (Fig. 82). With these reproductions we may compare the actual semi-column of the Treasury of Atreus (Fig. 44) with its peculiarly ornate spiral bands again reminding us of metal-work.[1]

[1] It is indeed argued (Semper, *Der Stil*, i. 434), that these semi-columns are simply the translation into stone of wooden pillars covered with richly embossed plates of metal. This has an air of probability, but were not the rings and spirals by origin simply actual bands binding together several slender stems to form the column?

CHAPTER X

THE ISLANDS AS MEDIATORS IN ART

THE foregoing inquiry has brought out two clear facts. First, Mycenaean art stands in close relations with the art of primitive Troy and with that of the Cyclades. Secondly, it betrays the influence of the farther East — namely, of Egypt, Syria and Mesopotamia. But it is specially in the Cyclades that we meet with correspondences so close and frequent that in many of its features the art of those islands presents itself to us as an elder sister of the Mycenaean. The column and the wall-painting of Thera attest something more than intimate relations, and the product of her more advanced ceramic art so closely resembles the unglazed polychromes of Mycenae that we can hardly draw the line between them. In general, the Island civilization in its full bloom can hardly be distinguished from the Mycenaean, nor can the latter be fully understood without reference to the former. It seems desirable, therefore, to define more exactly the character of the Island culture and its relation to that of the mainland.

Marble idols

In certain of the Cyclades, as Paros and Antiparos, Naxos, Ios, Amorgos, Thera and Therasia, we find small rude graves,[1] furnished with bronze weapons (spear-heads, daggers, wedge-shaped axes) and

[1] In one graveyard on Antiparos the graves "were on an average three feet long, two feet wide, and seldom more than two feet deep." — Bent, *The Cyclades*, p. 405.

Fig. 132. Marble Statuette from Amorgos

terra-cotta vases, for the most part bearing incised ornaments, which testify to a stage of development between the primitive Trojan pottery and the unglazed polychromes of Mycenae. But the peculiar characteristic of these graves is the presence of rude marble statuettes representing, as a rule, a nude woman with the arms folded upon the breast. Figures of the same kind have been found elsewhere in Greece, — at Athens, Eleusis, Delphi and Sparta, — but never more than one or two in either place, whereas in the Cyclades they occur in great numbers. The example here published (Fig. 132) is unusually large, being nearly five feet high, while ordinarily they do not measure more than a foot.[1]

These rude idols, together with arms and pottery belonging to the same low stage of culture, are sometimes ascribed to the Carians, sometimes to the Leleges — that mysterious race now represented as merely the double of the Carians,[2] now as a distinct people, dividing with

ascribed to Carians or Leleges

[1] A remarkable series of these idols, nine in number, and all of Parian marble, found in a pre-Mycenaean deposit at Phaestos in Crete, with two more from Siteia, in the same island, are published by A. J. Evans (*Primitive Pictographs*, 124–135). He lays stress, as does Salomon Reinach, on "the parallelism presented by the Trojan and Aegean forms of primitive images with those of Spain, the Danubian regions and the Amber Coast of the Baltic," and infers from their frequent occurrence in graves that "they had some connection with ideas relating to the Nether World."

[2] So Ernst Curtius, following Herodotus who describes the Carians as immigrants from the islands, where they had borne the name of Leleges; although he admits that this is only the Cretan version of the matter, whereas the Carians claimed to be autochthons of the Asiatic Mainland and never to have borne any other name. And the distinction is as old as Homer

the Pelasgians the whole of European Greece.[1] Whether we are to regard these as distinct races or not, it is clear that, before they had been swept out of the Aegean or subjugated by the Cretan sea-king Minos, they had wrought out a civilization which shows many points of contact with that of primitive Troy on the one hand and of primitive Cyprus on the other. Thus it presents itself to us as a peculiar phase or variety of the primeval civilization of Asia Minor, one of whose earliest and most important centres was Troy.[2]

Mycenaean contingent

But the Carians and Leleges, with their outlook on the East, were not alone in the occupation and civilization of the Archipelago. They must have been joined at an early day by people of the Mycenaean stock — certainly so on Thera, probably also on Melos and other islands. Aside from its intrinsic probability, this is attested by the close correspondence between Theraean and Mycenaean culture — a correspondence which can hardly be accounted for without assuming kindred blood. But, not to insist upon this or upon other criteria less positive, — for example, the absence from Theraean remains of the statuettes characteristic of the Carian graves, — we have important evidence in the two stone models already mentioned. One

(*Iliad*, x. 428 f.). Dümmler has undertaken to reconcile the two views by assuming that the Carians in their westward progress reduce the Leleges to serfdom, though the latter still outnumber them on the islands (thus accounting for the Cretan tradition); but on the Dorian-Ionian colonization of the Aegean the Carian masters with their Lelegian helots are flung back on the Asiatic coasts, where they are scarcely to be distinguished apart. Thus Dümmler would ascribe the primitive island-culture to the Leleges and the more advanced Mycenaean culture to the Carians (*Ath. Mitth.* xi. 37 ff.). But, as Percy Gardner has conclusively shown, the Carian theory of Mycenaean civilization is discredited by the facts (*New Chapters of Greek History*, p. 86).

[1] Aristotle, frag. 127, quoted by Strabo, vii. 321.

[2] Ferd. Dümmler (l. c.), to whom we owe the most careful study yet made of the Island civilization as related to the earliest culture of Cyprus and Troy.

of these, it will be remembered, was found at Melos, the other at Amorgos, and both are of Siphnos stone; they are, therefore, unquestionably island fabrics. Both represent dwellings — and clearly island-dwellings — built on pile-platforms, such as we have assumed for the archetype of the two-story houses at Mycenae. Hence if our hypothesis be correct — as we hope to show in a subsequent chapter — the islanders who reared their conical huts on piles must have been an offshoot of the lake-dwelling contingent of the Mycenaean stock.

That these two urns actually represent such dwellings is beyond a doubt. The one from Melos, now in the Antiquarium at Munich, was discovered many years ago; but, as its provenience was at first unknown, Sir John Lubbock published it as a model of a Swiss lake-dwelling.[1]

with pile-dwellings

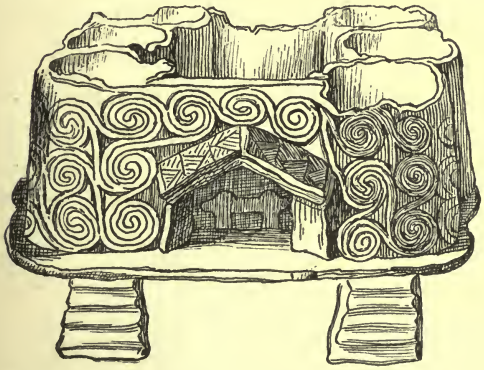


Fig. 133. Stone Box representing Pile-settlement from Melos (at Munich)

The Amorgos urn, first published by Dümmler, is of greenish marble, carefully wrought with a knife or fine

[1] "The Museum at Munich contains a very interesting piece of pottery [*sic*], apparently intended to represent a Lake hamlet containing seven round huts. The huts are arranged in three rows of three each, thus forming three sides of a square. The fourth side is closed by a wall, in the centre of which is an opening leading into a porch, which is represented as being thatched. The platform on which the huts stand is supported by four columns represented as consisting of logs lying one upon the other. The roof is unfortunately wanting. The sides are ornamented with the double spiral so characteristic of the Bronze Age." — Lubbock, *Prehistoric Times*, p. 57. Cf. Dümmler, *l. c.*, p. 446.

chisel. It rests on four legs, connected by two crossbars, which, of course, represent the beams used to hold the piles together and support the platform. The interior is cut in two, like an actual dwelling, by a partition wall, and the lid, which represents the roof, is conical in form, like the roof of the chamber already noted at Thera, and apparently thatched at the top. Farther, there are holes in the lid which are of no practical use in the urn, while such vents would be required in the actual roof.

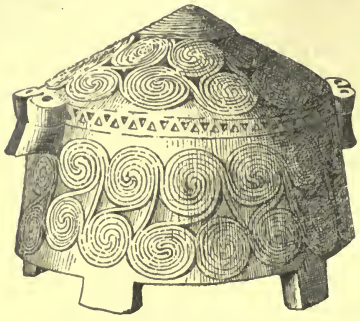


Fig. 134. Stone Box from Amorgos

Both urns are characterized by the interlacing spiral, as we see it in the upper field of the *stele* (Plate XI.), and both witness to the use of rush-thatching. While the

Fig. 135. Remains of Circular Tower on Amorgos

absence of the lid of the Melos urn leaves us to inference as regards the roofing of the individual huts, the propylaeum (as we may call it) of the cluster of huts is a positive voucher for the thatched gable-roof.

Singularly enough, we have now actually found on Amorgos a circular building which reproduces the construction we see copied in the Amorgos vase. Of this building a photographic view and ground-plan are given in Figs. 135, 136. The building can hardly be dated later than the seventh century B. C., but the construction may well be a survival of the primitive island-dwelling. In that case it offers a remarkable confirmation of the evidence of the hut-model from the same island: it has not only the same circular form, but the same partition into two chambers.

Fig. 136
Circular Tower on Amorgos (Ground-plan)

This Mycenaean stock, then, established in their Aegean pile-dwellings, either blended with the earlier island settlers (Leleges or Carians), or at least were in every-day contact with them. Being nearer both to Asia Minor and to the Semitic countries — the influence of the latter must be recognized in the marble idols — they not only carried the Island culture to a stage much beyond the Trojan, but they matured earlier than their kinsfolk in the Peloponnese. Thus maturing, they could not but influence their development. That they actually did influence Mycenaean art in certain branches — ceramics, for example — is now beyond controversy; that it was so in other directions as well, is altogether probable. A thorough exploration of these islands may be depended upon to afford new light upon many a dark problem in the history of Mycenaean art.

Intermediaries in Art

To take but one instance; we have noted the perfection which metal-work had already reached at the epoch of the acropolis graves, but the question of origin has been left unsolved. On the gold votives from those graves no motive is so familiar as the spiral, and it is always in *repoussé*. But when we go back to the Burnt City on Hissarlik we find an entirely different technique. There the spiral is formed by coiling a wire which is then soldered to the object it is to adorn. This is obviously the original process, whose result is to be copied later by the goldsmith's hammer and ultimately by the sculptor's chisel. But where was the transition made from the primitive Trojan to the developed Mycenaean technique? We have no hesitation in assuming that in this as in other progress the Islanders were the intermediaries.

Scarcity of metals

The opinion prevails, to be sure, that metal-work was so little advanced in the Islands as to render its influence upon the Mycenaean far from probable; but this view rests upon insufficient observation. It is based solely upon the scarcity of metals in the Carian graves and in the remains of Thera. But most of these graves are exceedingly primitive, as we know from the fact that the pottery found in them usually bears nothing but incised ornamentation. They do not, therefore, represent the acme of the island-culture. Again, even the few bronze weapons they have yielded are, after all, more numerous than those of the ordinary Mycenaean tombs, while other offerings of metal, especially of silver, are by no means wanting. Thirdly, the graves belong to a people who are already giving way before the more powerful Mycenaean intruders, and betaking themselves, as Köhler[1] has justly observed, to the smaller and more barren

[1] *Ath. Mitth.*, 1884, p. 161.

islands. No wonder, then, that the graves do not contain rich offerings of metal. What would be our estimate of Mycenaean art, in general, if we had no other data than we have obtained from the shabby tombs of Pronoia and others of the same class?

accounted for at Thera

As regards Thera, where regular excavations have yielded nothing in metal but a single bronze saw and two gold rings, an interesting question arises: Was the eruption altogether sudden and unexpected, as at Pompeii; or had the people time to escape with their more valuable effects? Barley and other cereals were found heaped up on the floors or stored in huge jars; the ruins were littered with bones of sheep and goats; and in one chamber lay a human skeleton. From all this it has been argued that the catastrophe came without warning, and all escape was cut off. But the inference is hardly warranted by the facts. Stores of grain and the like are not unusual in these prehistoric ruins; Dr. Dörpfeld's guests at Troy, in 1893, supped on pease from Priam's larder![1] If the stock was large at Thera, it may give color to the conjecture that the eruption occurred soon after harvest — nothing more. And for the litter of animal bones, we have remarked the like in the houses at Mycenae, where they were obviously nothing but the refuse of the table. And even if it be assumed that the animals at Thera were overwhelmed by the eruption, — in which case we should expect to find entire skeletons, — this would not prove that the inhabitants had no chance to escape, but simply that they lacked time and means to remove their flocks without loss. As for the human skeleton, Fouqué holds that it had not been buried, because it was found huddled in a heap instead of being

[1] "One large jar alone contained more than 440 lbs. of these pease." — Schliemann, *Report on Excavations at Troy in* 1890.

stretched at full length. But this proves nothing, for, as we have seen, this very posture was not unusual in the Mycenaean tombs. We do not claim that the body was deliberately buried in the chamber — only that the contrary cannot be proven. And, granting that one person actually perished in the catastrophe, this is far from proving that the people generally failed to escape.

If, however, the inhabitants had time to save themselves, they would certainly carry away with them their more portable and precious effects, which would of course include arms, tools and ornaments, while they would leave behind them their heavier ware of clay and stone. So, in the palaces at Tiryns and Mycenae we have found hardly any metallic objects, obviously because everything of the kind in reach was carried off before these palaces were burned.

In further proof that metals were very rare at Thera, is adduced the absence of bronze nails. As the nails would scarcely be drawn out of the timbers and carried away, it is argued that none were used in building the Theraean houses. But exactly the same observation would apply to Tiryns and Mycenae as well; in neither palaces nor private houses there have bronze nails been found at all, or but rarely; whereas many such nails still remain fixed in the walls of the Treasury of Atreus. What does this prove? Simply that the Mycenaean carpenter continued to join his woodwork in the primitive fashion inherited from an age that knew no metals or made little use of them. The ancient Italians kept up the same practice centuries afterward.[1] Much more would the Theraeans, standing as they did at a less remove than the Mycenaeans from the Stone Age.

From the remains of Thera, then, we are not to infer an actual scarcity of metals among the contemporary

[1] Helbig, *Die Italiker in der Poebene*, p. 79.

Islanders. And on the evidence of the graves we may even affirm the contrary, for bronze weapons are of more frequent occurrence in them than in the ordinary Mycenaean tombs. Nor is this all. At Thera, Amorgos, Naxos, Cythnos, there have been found at various times — whether in tombs or not, we do not know — swords, axes and spear-heads which witness no slight advance in metal-working.[1] The most important among these has been already described; it is the sword-blade from Thera, inlaid after the Mycenaean fashion. Although we do not know the circumstances of the find, it is clearly of high antiquity, and, judging from the type of axe represented upon it, of island workmanship. This is not the only sword from Thera, and we have still more from Amorgos — some of them resembling the earliest Mycenaean swords, while others are so different as to indicate an independent island style. From Amorgos we have spear-heads, also of the most primitive type; that is to say, they are provided with the tang to fit into the shaft as at Troy, instead of the socket to receive it as at Mycenae. Two specimens, now in the collection of the Archaeological Society at Athens, have each two oblong holes in the tang, — apparently for the string which secured them to the shaft, — while others have round holes for rivets. By this test, the art of Amorgos antedates the shaft-graves of Mycenae, in which only the later type of spear-head with the socket was found.

Metals not wanting in fact

Our stone urns (Figs. 132, 133) bear further witness to the high antiquity of metal-work in the Islands. These urns are indubitably of a very primitive date; but if the

[1] Worsaae, *Mém. des antiquaires du Nord*, 1872–77, pp. 129 ff.; 1878–83, p. 233. Sophus Müller, *Europ. Bronzezeit.* Cf. Undset, "Die Aeltesten Schwertformen," in *Zeitschr. für Ethnographie*, 1890, pp. 10 ff.

spiral ornamentation with which they are covered originated, as is claimed, with the goldsmith, he must have had long practice with his spirals before his fellow-craftsman would chisel them in stone.

Not to dwell upon these specific finds, do not the remains of Thera — with its plaster and frescoes, and with its hewn building stones and columns, prove that the civilization of the Archipelago was far enough removed from the barbarism of the Stone Age, or even an age of transition from stone to metals? In ceramic art and architecture the Trojans of the second city were far behind the Theraeans, whose homes were overwhelmed and, in a sense, preserved by the fiery flood; and yet those same Trojans had made no little progress in the goldsmith's craft. Why assume that Thera was behind Troy in this branch of art? Gold flowed from Asia Minor, and in Cyprus were the richest copper mines of the ancient world. With both countries the Islanders were in close relations. The princes of Troy, indeed, appear to have enjoyed a wider dominion, and their wealth would be greater accordingly; but opulent patrons were not indispensable to progress in metallurgy. The craftsman does not begin with great vessels of gold and silver. It is rather upon trifling objects designed to adorn the person or enrich cheaper fabrics that decorative art makes its earlier essays. This we may assume to have been the starting-point at Mycenae, while at Troy we actually see that ornament is applied not to vessels, but to bracelets, earrings, brooches and the like. Less opulent though they were, the Islanders might, and doubtless did, possess ornaments of the same kind, as we know they had advanced to the point of inlaying gold on bronze.

Metallurgy not backward

It is reasonable to conclude, then, that metal-working, as well as ceramics and architecture, had made considerable

progress on the Islands before the destruction of Thera — that is to say, in the earlier part of the second millennium before our era. Hence it was in a position to influence Mycenaean art and bring it into relation with the art of Troy. The Cyclades were well placed for this intermediary *rôle*, and there can be little doubt that they fulfilled it. In the old-fashioned spear-heads of Amorgos we trace the influence of the earlier civilization on the Hellespont; in the inlaid sword-blade of Thera we seem to see the Aegean turning its face to the unfolding culture of Mycenae.

Intermediary *rôle* of island art

CHAPTER XI

WRITING IN MYCENAEAN GREECE

It is now some years since traces of writing began to be noted on Mycenaean monuments. The earliest published was a stone pestle from Mycenae with a single incised character resembling one of the Cypriote signs.[1] A year later in a chamber-tomb at Mycenae we found two amphorae, quite plain, except that the handle of one of them (a jar 22 inches high) bears three characters incised while the clay was yet soft.[2] There were four very similar amphorae from the beehive tomb at Menidi, and it was now observed that two of them bore similar traces of writing — the handle of one having incised upon it a character resembling a Greek Π, the other a sign identical with the Cypriote *pa*.[3] Again, in 1892, Dr. Staes found in a tomb at Pronoia a genuine Mycenaean vessel with three ears, on each of which is graven a sign resembling the Greek H, except that the vertical strokes bend outward at the top (Fig. 139). In the same year there

First traces of Mycenaean writing in Greece

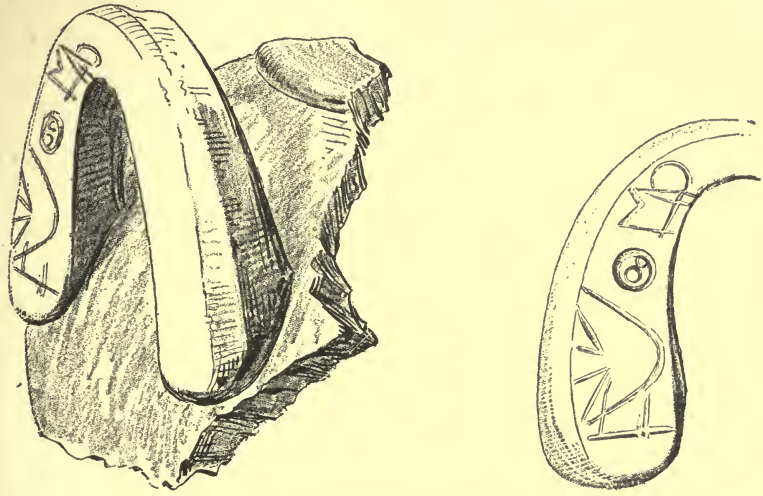
Fig. 137. Vessel from Pronoia

[1] Tsountas, Πρακτικὰ τῆς Ἀρχαιολογικῆς Ἑταιρίας, 1889, p. 19.

[2] See group 9 in Table II.

[3] See Table I, 4.

was found in the ruins of a house on the Mycenaean acropolis part of a stone vessel, including a handle, with four or five characters cut upon it in a consecutive group, obviously



Figs. 138, 139. Inscribed Amphora-handle (Mycenae)

from left to right (Figs. 138, 139). Both the material — a black stone flecked with white — and the form are common to other known Mycenaean vessels.[1] Hence the presumption is that the vessel was made in Greece, whereas the local origin of the Mycenae and Menidi amphorae may be called in question, inasmuch as the like are found in Egypt as well.

Concurrently with these finds in Greece, characters of the same kind were coming to light in Egypt. In 1889–90 Mr. Flinders Petrie excavated two ancient cities in the Fayûm — one of them (now Kahun) dating from the Twelfth Dynasty (2500 B. C.); the other (now Gurob) founded by Thothmes III. and ruined under Meren-

In Egypt

[1] For a similar handle, compare the bronze bowl figured in *Ἐφημερὶς Ἀρχαιολογική*, 1888, Pl. 9, No. 27.

pthah, so that its whole career is comprised in the two centuries and a half from 1450 to 1200 B. C. Both towns appear to have been occupied by immigrants from Asia and the shores of the Aegean, and both yielded unmistakable Mycenaean pottery ("Aegean," Mr. Petrie prefers to call it), often inscribed with characters similar to, and in some cases identical with, those found in Greece. In these characters Mr. Petrie did not hesitate to discern "some kinship with the Western alphabets."[1]

Such were the main results obtained up to the year 1893, and in publishing them[2] we observed: When the characters are found isolated, they are obviously nothing but the artificer's or owner's marks; but when they occur in consecutive order, four or more together, may we not look for a deeper significance? May we not regard them as letters? At any rate, the stone vessel whose handle bears the longest inscription was probably made in Greece. May we then venture to credit the Greeks of the Mycenaean Age with a knowledge of writing? Any answer to this question now would be premature; but it is only right to say that, so far as our present knowledge goes, the facts do not make for an affirmative answer.

Now, however, the data available for a solution of the problem are much more abundant, and that largely through the insight and energy of one man. During a visit to Greece, in the spring of 1893, Mr. Arthur J. Evans "came across some small three and four sided stones," engraved

[1] "Having now this body of signs in use in 1200 B. C. in a town [Gurob] occupied by people of the Aegean and Asia Minor, Turseni, Akhaians, Hittites and others, it will require a very certain proof of the supposed Arabian source of the Phoenician alphabet, before we can venture to deny that we have here the origin of the Mediterranean alphabets." — *Ten Years Digging in Egypt*, pp. 134 f.

[2] Tsountas, Μυκῆναι, Athens, 1893.

with a series of remarkable symbols. Most of these stones were perforated along their axes, as if intended to be strung on a cord. He at once surmised that these symbols belonged to a hieroglyphic system, quite distinct from the Egyptian and also independent of the Hittite forms which they yet closely resemble.

Evans' researches in Crete

All the available evidence pointed to Crete as the principal source of these hieroglyphic forms, and this determined Mr. Evans to follow up his investigations on Cretan soil, which he did in 1894 and again in 1896. There his expectations were realized; his success, indeed, went beyond his most sanguine hopes. He found a considerable number of stones engraved with the same kind of hieroglyphic signs; and these convinced him that the signs in question were not mere fanciful drawings or ornaments, but characters of an ancient system of writing. At the same time he collected from different primitive remains in Crete groups of linear signs of a kind already known from the finds in that island as well as at Mycenae and in Attica and Egypt.

In the "Journal of Hellenic Studies,"[1] Mr. Evans reported and discussed these discoveries, and summed up his results in the following words: "The evidence which I am now able to bring forward will, I venture to think, conclusively demonstrate that as a matter of fact an elaborate system of writing did exist within the limits of the Mycenaean world, and moreover that two distinct phases of this art are traceable among its population. The one is pictographic in character like Egyptian hieroglyphics, the other linear and quasi-alphabetic, much resembling the Cypriote and Asiatic syllabaries."

The pertinence of these interesting discoveries to the

[1] Vol. xiv. (1894), 270–372; reproduced with some additional matter in *Cretan Pictographs and Pre-Phoenician Script*, London and New York, 1895.

subject-matter of the present work is obvious; and we must therefore pass in review Mr. Evans' main results and attempt to determine their bearing on the general problem of Mycenaean culture.

These engraved "seal-stones," to use Mr. Evans' term (though it is strictly applicable only to a part of them), he arranges in five groups: —

HIERO-GLYPHIC SYSTEM: Seal-stones

I. Three-sided or prism-shaped, including two varieties, — one elongated, the other globular.

II. Four-sided equilateral.

III. Four-sided with two larger faces.

IV. With one engraved side, the upper part being ornamented with a convoluted relief.

V. Stones of ordinary Mycenaean type.

Mr. Evans describes twenty-one of these stones, most of them belonging to the first three groups. About eighty hieroglyphic symbols are engraved on them.[1] One of his reproductions is made from an impression of a seal which Sayce saw in Athens, and another represents a stone obtained at Sparta.[2] All the rest of his examples are from Crete. These stones are all small, the largest being not more than .022 m. in length or diameter.

Fig. 140. Seal at Athens

The objects of most frequent recurrence in these symbols are: [3] —

"The human eye. A bent arm with expanded fingers. A bent arm with curved instrument. Two arms crossed,

[1] A single four-sided seal-stone from Siteia has now added six new symbols (*Academy*, June 13, 1896).

[2] Now known to be from Crete. See Evans, *Cretan Pictographs*, p. 137 (London and New York, 1895).

[3] See Mr. Evans' account in the *Athenaeum*, No. 3478.

with open palms. A human leg with bent knee. A single and double axe. A dagger. A club or sceptre. An arrow-head and other uncertain instruments. A spouted vase and another with a high beak. Trellis-work or fence. A door or gate. A ship. A primitive lyre, apparently developed from a horn bow. The head of a wolf with his tongue hanging out. Deer-horns. The head of a bull, of a goat and, apparently, of a bird. A pig and a kid. Birds. Fish, perhaps tunny. The jaw of an animal. Stars of four, eight, and revolving rays. A double crescent. Two concentric circles with central dot. An S-shaped symbol. Floral and vegetable forms derived from lily, etc. Loop and knot-like symbols, crosses and other geometrical designs."

Variety of symbols

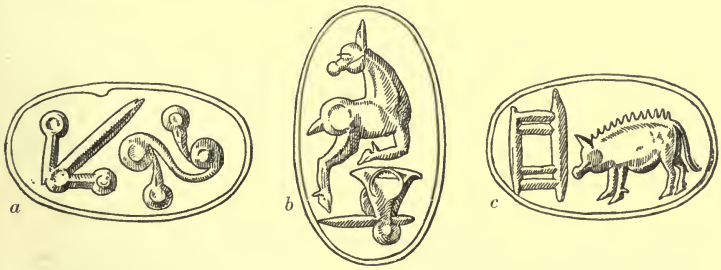


Fig. 141 *a-c.* Three-sided Carnelian from Eastern Crete (Evans, 24)

Mr. Evans gives various reasons (pp. 300 f.) which convince him that these different symbols are not simply idle figures carved at random, but actual pictographs. Thus, some of these signs are found exclusively at the beginning or the end of a line, while others occur on different stones in the same collocation. Certain it is that such odd symbols as two arms crossed with open palms, or a bent arm with expanded fingers, or a leg with bent knee, would not have been engraved so repeatedly and in such collocations unless for some significant purpose.

Of the eighty symbols, some sixteen (or twenty per cent.) approach the Egyptian, an equal number the Hittite forms.

Resemblances

Mr. Evans rightly remarks that "considering that the choice of comparisons is in the case of the Egyptian hieroglyphs very much larger than in that of the Hittite, it will be seen that the proportion of affinities distinctly inclines to the Asiatic side." But with all these similarities, the Cretan symbols are neither Egyptian nor Hittite; they are clearly an independent system.

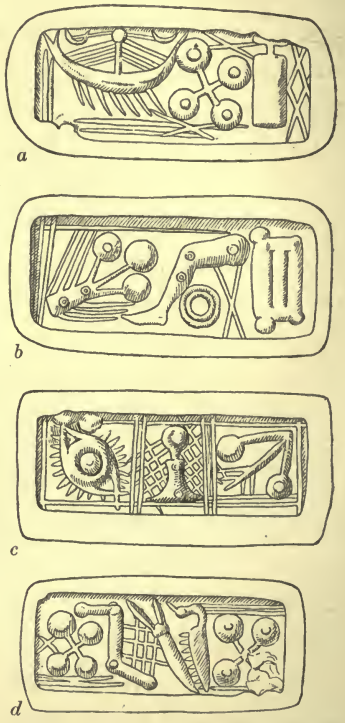


Fig. 142 *a-d.* Four-sided Seal-stone (Evans, 34)

The symbols occur, as a rule, in groups of from three to seven; often, however, two or three stand alone. From these various groupings, Mr. Evans suspects that the separate characters have a syllabic value. However, he admits that many of them were simply ideographic or symbolic, and were designed to convey information regarding their owners. For example, a boat with a crescent moon on either side of the mast (Fig. 142 *a*), he thinks may have been the signet of an ancient mariner who ventured on long voyages.[1] Another signet, with a gate and a pig on one of its faces (Fig. 141 *c*), would be proper to a well-to-do swineherd. So

Grouping

[1] Even a one-moon voyage seems to have been too much for the average Homeric mariner (*Iliad*, ii. 292–4).

the fish (Evans' Fig. 33 a) may indicate a fisherman; the harp (Evans' Fig. 33 a b) a musician; and so on.

These stones must have had a long history. Most of them date from the Mycenaean age, but their beginnings undoubtedly go much farther back. In his long discussion of their chronology, Mr. Evans concludes (p. 324) that "the comparisons already accumulated sufficiently warrant us in referring the most characteristic of the hieroglyphic stones to the great days of Mycenaean art;" but, he adds, "there are distinct indications that the beginnings of the picture-writing go back to a far more remote period of Cretan story." Nevertheless it is still true that some of these objects date only from the end of the Mycenaean epoch, or are even of still more recent origin. The question is involved in unwonted difficulties from the accidental character of the finds: it is only regular excavation under scientific control — noting every detail of stratum and association with other objects — that can afford fair data for establishing a chronology.

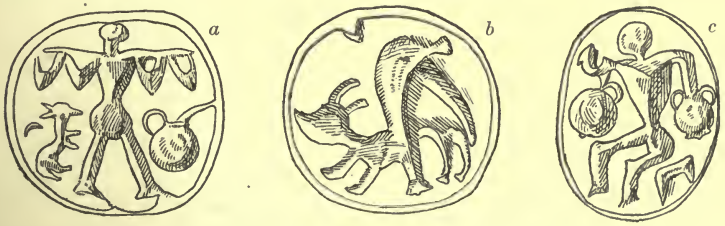


Fig. 143 *a-c*. Gray Steatite, from Praesos (Evans, Fig. 55)

However, we feel perfectly safe in the following general conclusions: In Mycenaean times there existed in Crete a system of writing, hieroglyphic in character. It was partly syllabic, partly ideographic. While it had something in common with the hieroglyphic writing of Egypt, and still more with that of the Hittites, it

Conclusions warranted by the facts

was independent of both. Its use, however, as far as present testimony goes, was neither frequent nor far-reaching. For we find these signs only on signets, and that only within the limits of Crete.[1] Even the shape of these stones, as well as their inscriptions, seems to be peculiar to Crete. Neither in Peloponnesus nor in Continental Greece do we find stones of the second, third or fourth class, — though a few specimens of the first class have in fact been found there.

Symbols recurring at Mycenae

On ordinary lentoid stones and on gold signet rings from Mycenae are to be seen occasionally objects similar to these Cretan symbols, — for example, a human leg bent at the knee, heads of animals, a double-edged axe; but these are either a constituent part of the design or else naïvely used to fill up the background. They are not elements of writing. Still they may be imitations of Cretan pictographs, which the Mycenaeans possibly regarded as merely decorative and copied accordingly.

The pictographs Eteocretan property

In Crete itself these pictograph-stones have not been found broadcast, but solely in the region east of Knossos. This fact is a significant one. This eastern half of the island was the *habitat* of the Eteocretans, whom the first Greek colonists found in possession of the country and who probably came from Asia. Down to historic times they preserved their own language and nationality. To them Evans has assigned the stones in question and the hieroglyphics, and he has provisionally styled the system of writing "Eteocretan," a name which squares with the facts as far as we know them. But we must not suffer the term to lead us to premature conclusions concerning the origin of the system. We do not yet

[1] The sole exception — a red carnelian labeled "from Sparta" (Evans, Fig. 32) — has now been traced back to Candia. (*Cretan Pictographs*, p. 137.)

know where it took its rise. Its use in the island, limited to a single class of objects, does not appear to speak for an Eteocretan origin. Probably it originated in the East; and, when transplanted to Crete and confined to the Eteocretans, it would appear to have lived on — we can hardly say flourished — there for long ages. Its Asiatic *provenance* is suggested by the marked correspondence, already noted, with the Hittite symbols. This correspondence Mr. Evans explains "by supposing that both systems had grown up in a more or less conterminous area out of still more primitive pictographic elements."

Now the Mycenaean civilization had penetrated every section of Crete. Hence the Eteocretans, as well as their neighbors of central and western Crete, had their part in it. But, on the other hand, the hieroglyphics were, and always continued to be, an exclusively Eteocretan possession. We are not prepared to believe, then, that this pictographic system exercised any appreciable influence on the Hellenic peoples of Greece or even of Crete itself, or that it had anything to do with forwarding the civilization which the Greeks wrought out.

On the blocks of a prehistoric building at Knossos are to be seen a number of curious signs, first noticed in 1880 and published by W. J. Stillman.[1] The building itself Mr. Stillman sought to identify with the legendary Labyrinth. Dörpfeld and others, who saw it after the excavations at Tiryns, discovered a striking similarity between it and the Tiryns palace.[2] The important point for us is that this similarity gives an approximate date for the building. The signs were probably mason's marks,

LINEAR SYSTEM

[1] In the Second Annual Report of the Executive Committee of the Archaeological Institute of America, 1880–1881.

[2] Fabricius, *Ath. Mitth.*, 1886, pp. 135 ff.

but, as Evans observes (page 282), "the marks themselves, like many others of the kind, those, for instance, on the Phoenician walls of Eryx, are taken from a regular script." The correctness of this opinion is attested by finding the same signs on other objects — for example, on the two handles described above, which belong to the Mycenaean epoch.

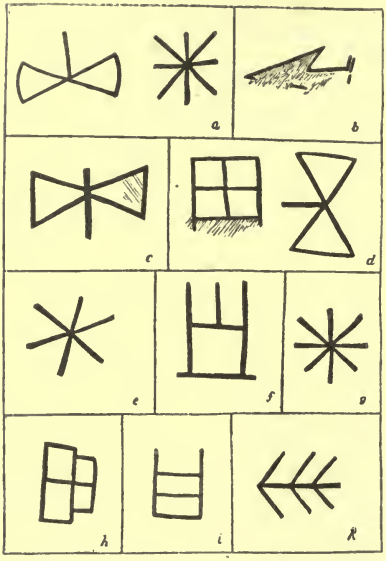


Fig. 144. Signs on Blocks of Mycenaean Building, Knossos (Evans, Fig. 9)

Mr. Evans has now discovered a number of similar signs engraved on sealstones, on pendants, on whorls of stone and of clay, on vases, and on a stone of the Mycenaean type, all of them found in Crete. Similar signs occur on a large block of stone which Halbherr observed, and copied, in a terrace wall on the site of Phaestos. Chiseled upon this block, along with two doubtful signs, we see a broad arrow recalling one of the most frequent symbols on the seals. Similar signs again are to be read on a "pale green perforated steatite from Siphnos, one side of which is engraved with characters of curiously Cypriote aspect" (Fig. 145). And we must now add the continuous inscription from the cave of Psychro.[1]

Fig. 145
Siphnos Seal

From the data thus collected, Mr. Evans drew up a table of signs containing thirty-two characters.

[1] See Note appended to this chapter.

To this table some additions can be made. On the stone pestle from Mycenae, already referred to, occurs the mark . Here the first sign is like the Cypriote for the syllable *na*, while the second (oblique line) may be merely a chance scratch. Although Mr. Evans mentions this pestle (page 274), he does not give this a place in his table of symbols. He has likewise omitted the symbol found on an amphora from Menidi (see page 268), and the sign incised twice, or perhaps thrice, on the vase from Pronoia. This sign, however, may be only a variation of the which is given in the table. To these we may now add three newly discovered symbols, , on a small white marble vase of a familiar island pattern, which was dug up in Cythera, and is now in the possession of Mr. Sp. Staes, deputy from that island.

Thus, from these various objects of various provenance, — from vases of stone and terra cotta, from pendants, whorls, seals, building-stones and other objects, found at Mycenae and Pronoia in Argolis, at Menidi in Attica, in Siphnos, Cythera and Crete, — we may make up a list of thirty-eight different characters, to which the Psychro inscription may possibly add five more. Now, as regards chronology, it is clear beyond a doubt that some of these objects date from the Mycenaean epoch, while others are even older. Mr. Evans declares that linear forms occur "on button-shaped stones belonging to that period of Cretan history which is marked by the decorative influence of twelfth dynasty Egyptian models."

Number and age of the linear characters

Thus, various indications — chronology, provenance, environment — all point to a close connection between these linear signs and Mycenaean culture. Mr. Evans accepts this relationship, and terms the linear writing "Aegean or Mycenaean." But these

The system "Mycenaean," but of wide range

symbols are found even outside of Greece and the Aegean. We have already seen that many such signs are inscribed on potsherds found by Mr. Flinders Petrie at Kahun and Gurob in the ruins of two ancient cities.

in Egypt

Mr. Petrie holds that these cities were occupied by foreigners from the shores of the Aegean; and accordingly he calls the earthenware "Aegean pottery." To this there seems to be no chronological objection; for the brief career of one of these cities — on the site now occupied by Gurob — falls entirely within the Mycenaean age (1450–1200); while the other, where Kahun now stands, was built by a king of the Twelfth Dynasty, that is to say, in the early third millennium before our era. And some of the inscribed pottery found there is as old as the building of the city. In this Petrie and Evans are now agreed.[1] Accordingly, in Egypt, as in Crete, these symbols occur on various objects from the Twelfth Dynasty down

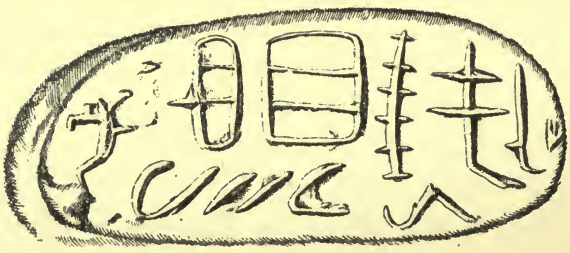


Fig. 146. Steatite Seal from Lower Egypt

through all the Mycenaean epoch. That the symbols found in Egypt are the same as those in Greece is clearly shown by the fact that twenty of Evans' thirty-two sym-

[1] "There seems no good reason for doubting Mr. Petrie's conclusion that the ruder pottery from the same deposit (in the Kahun rubbish-heaps), exhibiting the incised character of non-Egyptian forms, may go back in part at least to the days of the Twelfth Dynasty." — Evans, *l. c.* p. 350.

bols, and at least one of those we have added, — namely, that on the Menidi amphora, — are also to be seen on the Kahun and Gurob finds.

Likewise at Tell-el-Hesy in Palestine, the supposed site of the ancient Lachish, Mr. Bliss has found various symbols on potsherds in deposits which he regards as anterior to 1500 B. C.[1] Seven of these are like those of Crete and the rest of Greece (Fig. 147), and others of them have their counterparts in the symbols found by Mr. Petrie. in Palestine

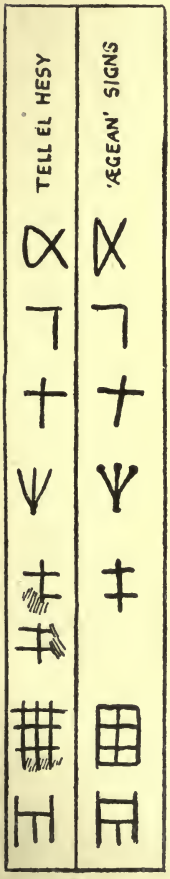


Fig. 147. Tell-el-Hesy and Aegean signs compared (Evans, Fig. 75)

Remarkable also is the similarity between the "Mycenaean" symbols and the Cypriote syllabary. Fifteen of the thirty-two characters in Evans' table are identical in shape with Cypriote symbols, as are also five or six of those we have added, — namely, the sign on the stone pestle, that on the Menidi vase, and one of those on the Cythera vase. And if we had Cyprian inscriptions in the local syllabary more nearly coeval with the "Mycenaean" signs, doubtless the relationship between the two would be still more apparent. in Cyprus

These marks of identity, which cannot be explained away as merely casual, prove that the "Mycenaean" symbols range beyond the geographical as well as the chronological limits within which Mycenaean civilization flourished. We have

[1] F. J. Bliss, *A Mound of Many Cities, or Tell-el-Hesy Excavated* (London and New York, 1894), pp. 21–33.

seen that they are as old as the Twelfth Dynasty, which conservative Egyptologists now carry back as far at least as the year 2000 B. C.[1]

Not a Greek invention nor devised for Greek speech

But, on the other hand, Mycenaean culture in Greece belongs to the Greeks: this view is daily gaining ground.[2] True, peoples of other stock were drawn within the sphere of its influence; but in Peloponnesus and on the adjoining Mainland, and for the most part in the Islands too, this civilization was Greek, and cultivated by Greeks. For all that, the system of writing to which the "Mycenaean" symbols belong seems not to have been a Greek invention, nor primarily intended for the Greek language. Mr. Evans attempted to read with the aid of the Cypriote syllabary some of the inscriptions written in "Mycenaean" characters; and the experiment led him to the conclusion that their language was not Greek. It is of course now well known that the Cypriote alphabet as well was devised by a non-Hellenic stock, and subsequently adapted to the Greek language, whose sounds it could but imperfectly represent. As Mr. Evans says (page 354), "The Greek of the Cypriote inscriptions always seems to be clothed in a foreign dress, ill-fitting at the best."

No proof of Mycenaean use

We have now to inquire whether the Greeks, who in the Mycenaean age occupied Peloponnesus and Attica, ever undertook to write their language in these "Mycenaean" symbols. This question is suggested by the example of the Greeks of Cyprus, who at a later time wrote their language in non-Hellenic characters.

[1] Petrie dates it 2778–2565 B. C.; Brugsch, 2466; Lepsius, 2380; Erman, 2130; but Cecil Torr brings it down to "1500 B. C. at latest."

[2] Cf. Erwin Rohde, *Rheinisches Museum*, 1895, p. 24, n. 2: "Die Meinung dass die Mykenische Kultur einem ungriechischen Stamme angehöre, hat gegenwärtig wohl kaum noch Vertreter."

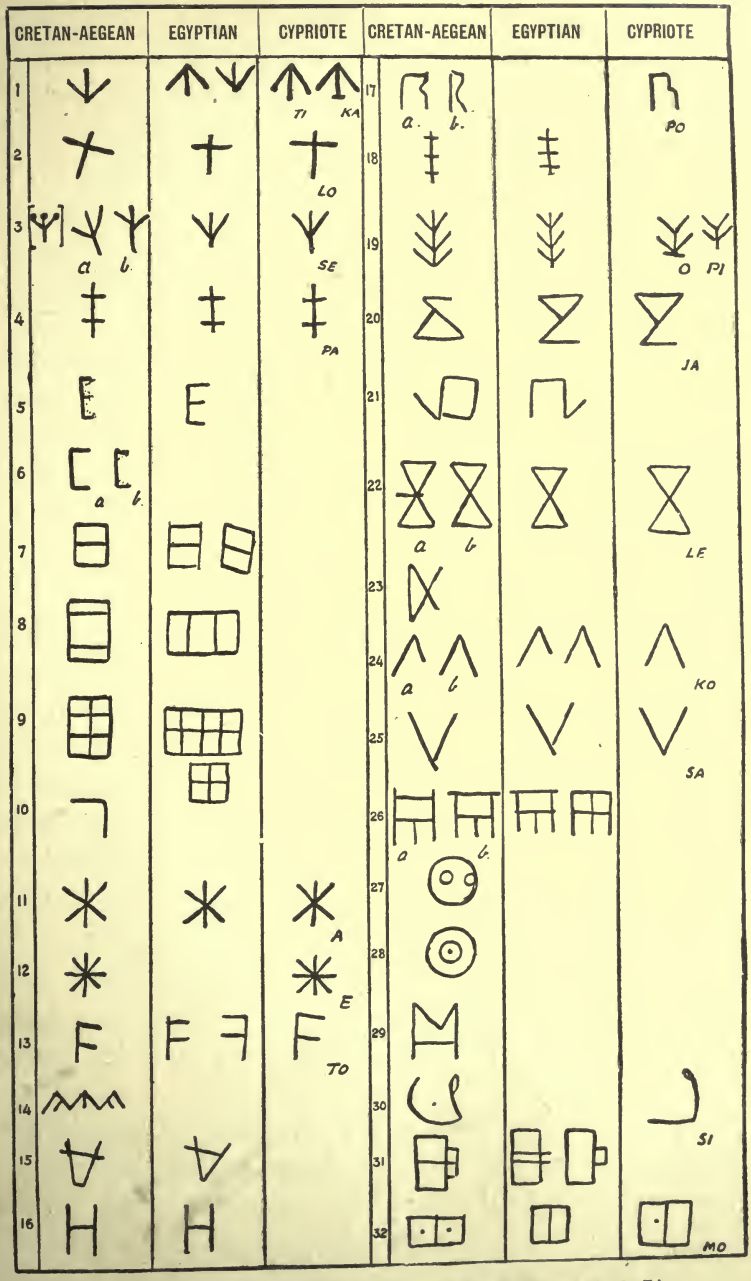


Fig. 148. Comparative View of Linear Signs (Evans' Table I.)

Three years ago, in publishing two inscribed vase-handles, we stated that facts seemed to show that writing was neither used nor known among the Mycenaean peoples. To-day we must reiterate the same judgment; for, while Mr. Evans' researches have thrown much light upon this subject, we still cannot assert that they were acquainted with any system of writing or that writing had any share, great or small, in the development of Mycenaean culture. Perhaps the future may reveal fresh data; but in Greece at least the Mycenaean epoch has been pretty thoroughly explored, and this exploration has yielded us a great mass of monuments, — utensils, ornaments and other products of Mycenaean art; and these afford negative proof against the existence of writing. Of all the finds at Mycenae itself, only three objects bear inscriptions. Is it possible, then, that writing was in use?

In Crete, indeed, these symbols occur more frequently. For, while in Peloponnesus and in Attica we have recovered only six inscribed objects, — three of them amphorae of a pattern found also in Egypt — there have been found in Crete some fourteen inscribed objects, to which must be added the Phaestos blocks, the building-stones at Knossos, and the "table of offerings" from the Cave of Psychro.[1] Still we must remember that scientific excavations have hardly begun in Crete, and that these discoveries are largely due to mere chance. Between the Cretan finds and those of Peloponnesus and the Mainland are to be reckoned two inscribed objects, — the disk from Siphnos and the marble vase from Cythera.

The greater frequency of the finds in the Islands, and especially in Crete, undoubtedly indicates that these islands lay nearer the original source of these curious signs. What

[1] See appended Note (p. 292 f.)

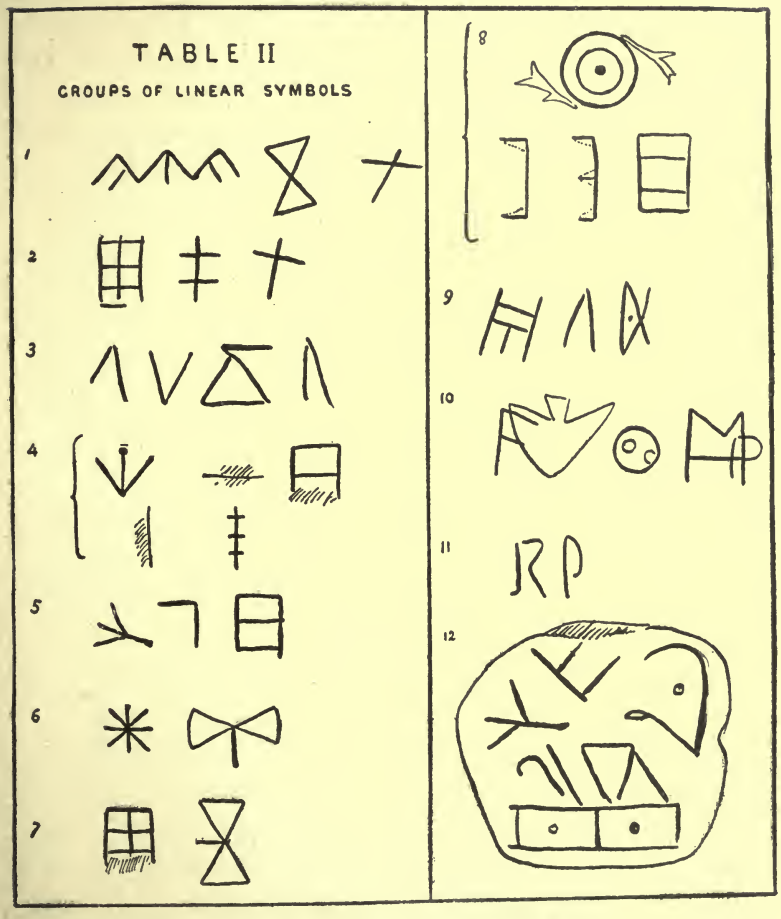


Fig. 149. Groups of Linear Signs (Evans' Table II.)

that source was we do not know. But for various reasons we might look for it in Crete. In the first place, as we have seen, the people in whose midst the system took shape probably did not speak the Greek language; and in Crete we find a primitive non-Hellenic stock in the Eteocretans. Again, every system of writing is at first ideographic, and represents thought either by a series of pictures or by symbols derived from such pictures. In time it advances to notation of syllables, and finally of simple sounds by signs derived from ideographs and symbols. Hence it is reasonable to conjecture that the "Mycenaean" linear script, which appears to have been syllabic, was a development from an older ideographic system. And this again would square with the assumption of a Cretan origin, for not only did the Eteocretans possess an ideographic system of writing, but, as Mr. Evans has shown, at least a dozen of their primitive ideographs reappear unmistakably in the "Mycenaean" script. Hence it is conceivable that the "Mycenaean" signs were developed from the old Eteocretan hieroglyphs.

Was it of Cretan origin

Nevertheless, we do not think that these Eteocretan symbols or any others of the same system, but "of a rude 'graffito' and almost linear type themselves," were the archetypes of the "Mycenaean" signs. The Eteocretan script always remained one of purely local use, confined to the eastern half of the island. We do not know that any other people ever employed it. Accordingly, the only people who by a process of simplification could have changed this ideographic into a linear system were the Eteocretans themselves. But it seems that they never felt any necessity for such a change. On the contrary, at the acme — possibly, too, during the decline — of Mycenaean art they continued to write their ideographic

Not evolved from Eteocretan pictographs

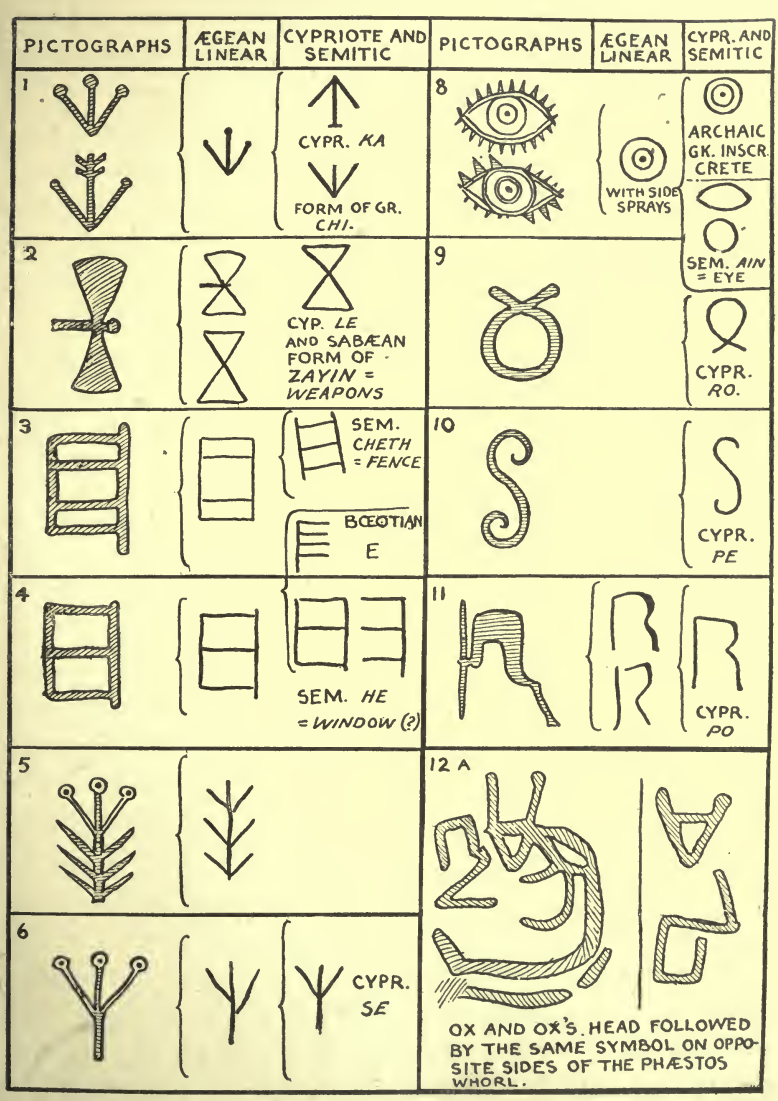


Fig. 150. Comparative View of Pictographs and Linear Signs (Evans' Table III., omitting 7, 12*b*, 13)

script, although the linear signs in question had been in common use ever since the twelfth dynasty, both in Egypt and in Crete itself. Mr. Evans says (page 362) that "the indigenous Cretan stock . . . appear to have continued to use this less developed form of picture-writing at a time when their neighbors had generally adopted what may be a more simplified form of script." But if the change of the older system into a simpler and shorter one had been the work of the Eteocretans, they surely would have been the first and more common users of it.

No other people of Crete or of any of the islands can be regarded as the authors of this linear system of writing.

Origin to be sought in the East

We are, therefore, again compelled to look to the East. There we find a linear system closely akin to the "Mycenaean," Cypriote and hieroglyphic scripts, — the system of the Hittites. This Hittite script, or some variety of it, seems to have been the prototype of the Cypriote; and perhaps from some other branch of it sprang the "Mycenaean" system and even the Phoenician alphabet. In his long article, packed with learning and distinguished by critical acumen, Mr. Evans shows (contrary to the well-known theory of de Rougé) that at least a few of the letters of the Phoenician alphabet come directly from hieroglyphic symbols, as Alpha (Alef = an ox) from the hieroglyph of an ox-head; Zeta (Zayin = weapons) from the two-edged axe; Sigma (Samech = a post) from the sign of a tree; Omikron (Ain = eye) from the circle used to represent the eye; Eta and E-psilon (cheth = a fence, and He = a window) from signs for a wall or door or window.[1]

These symbols — the ox-head, axe, tree, eye, door, fence — do actually occur in the Eteocretan system, and some

[1] See Table III., reproduced (with omission of Groups 7, 12 and 13) from Evans.

of them are found in the Hittite script. Moreover, resemblances of the Phoenician alphabet to the "Mycenaean" and Cypriote characters have long since been recognized.[1] These similarities now admit of easy explanation on Mr. Evans' hypothesis. And in the light of these later studies we see more clearly what deep root these systems took, and what vigorous life they enjoyed upon the eastern shores of the Aegean, while on its western shores they were never acclimated. And this leaves little doubt whither we must turn to find their starting-point.

As regards the similarity between the Phoenician alphabet and the Cypriote syllabary, it must be remarked that the signs common to them have not in both the same phonetic value; a given sign may represent one sound in the Phoenician and a different one in the Cypriote system. Mr. Evans offers an explanation of this phenomenon in a way which carries with it a clear idea of how various systems of writing may spring from a common source. We quote the entire passage (page 367): "Supposing that throughout a considerable part of the East Mediterranean basin a pictographic system of communication had grown up, analogous in its earlier stage to the picture-writing in use among the North American Indians, such pictorial signs would have had, as they still have amongst savage races at the present day, a currency beyond the limit of individual languages. The signs would in fact have been ideographic and independent of language. But as the system became more conventionalized and developed, and finally gave birth to a kind of linear short-hand of the original picture-writing, the figures which had stood for individual objects and ideas would in due course acquire a shortened phonetic value representing syllables and letters. And, as a necessary

[1] Tsountas, Μυκῆναι, p. 215.

consequence of this process, these signs, though they may have been derived from what was originally a widely current pictorial stock, would now take the phonetic value imposed by the language spoken by individual tribes. The old picture of an ox or an ox's head would have been generally intelligible. But reduced to the linear stage, the ox's head might be an A in one country and a B in another."

Summary

Let us now sum up the facts. There existed in Crete during Mycenaean times, or even earlier, a hieroglyphic system of writing, partly ideographic and partly syllabic. About eighty of these signs are now known to us. The system was related to that of the Hittites, and perhaps also akin to other systems in use along the shores of western Asia, where it probably originated. It was in use chiefly in the eastern portion of the island, and belonged almost certainly to the indigenous non-Hellenic inhabitants, the Eteocretans. Its use always remained merely local, and it never spread beyond the boundaries of Crete. This system had no influence on the Greeks or on Mycenaean civilization.

At the same time there existed another system of writing, linear in character and probably syllabic. It was much more widely diffused than the other. We find traces of it not only in Crete, in some of the other islands, in the Peloponnese and Attica, but even in Egypt and southern Syria. Of this system the Cypriote syllabary seems to have been a branch. The characters of this script were probably derived by simplification from older hieroglyphic symbols, but not from those of the Eteocretans. The simplification took place, we conjecture, in the East and among a people or peoples not Greek. Thence it was carried into Greek lands. Here it spread more in the islands, at least in Crete,

than in the Peloponnese and Continental Greece, where the number of objects inscribed with these characters is surprisingly limited. In the excavations at Tiryns not one such object was discovered. Three were found at Mycenae, but it is not certain that they were made there.[1]

The Hellenic stock in Greece who wrought out the Mycenaean civilization seem not to have required or used any system of writing. This is a surprising fact when we consider how splendidly nature had endowed them for other tasks, and how constantly they were in touch with nations that had long known and employed that art. Nevertheless, we cannot escape the conclusion. Mr. Evans' discoveries are unquestionably of high importance, but for the history of Mycenaean civilization they possess only a negative value. It may be regarded as demonstrated that "an elaborate system of writing did exist within the limits of the Mycenaean world," and that this system flourished in Crete, at the very gates of the Peloponnese, long before Mycenaean culture had reached its meridian. How came it, then, that the authors and bearers of that culture either entirely neglected, or, at most, so rarely employed the art? How is it that their princes never hit upon its use as a means of commemorating their achievements?

It is easier to ask than to answer these questions. It may be the primitive peoples of Greece felt no need of writing. They had other ways of learning and communicating what they would. Each state, even imperial Mycenae, lay within very narrow bounds; a patriarchal form of

[1] It can hardly be a mere coincidence that three of the six inscribed objects found in Greece have exactly the shape of an amphora from Gurob. Mr. Evans speaks of the stone vase-handle (Fig. 138), as "apparently of a local material," but this is not established. All that can be said is that other vases of the same kind of stone, and belonging to the same period, have been found in Greece; but where this stone occurs we do not know.

government prevailed; social relations were very simple; there were few temples and no sacerdotal class; the dead were buried in family cemeteries, — a practice which did not favor such individualization of each member of the clan as an epitaph is intended to secure; finally there were the winged songs of the troubadours who published the κλέα ἀνδρῶν to a much wider circle than could be reached by inscriptions set up in some one place. All these circumstances, with others we can no longer divine, may have gone to minimize the need of a system of writing. Moreover, we should not forget that the Mycenaeans were still in a sense "barbarians," influenced indeed by their contact with the East, but yet maintaining a decided independence, not only in their art, but in all their ways of life. For them writing could have, as it was destined long to have, little or no attraction.

NOTE. — In a renewed exploration of Crete in the spring of 1896, of which reports have appeared in the *Academy* of June 13 and 20, and July 4 and 18, 1896, Mr. Evans has secured very important new data bearing on Mycenaean culture in general, and the question of writing in particular. These data include fifteen fresh examples of the primitive three-sided seal-stones with pictographic designs, single or in groups, on each face. All these are pre-Mycenaean seals of steatite or "soapstone," — large deposits of which he has found on the island. The abundance of this facile material at their very doors explains, he thinks, the general diffusion of the taste for wearing engraved seals and ornaments among a comparatively primitive population. The Cretan craftsman had at hand the very stuff for glyptic art to practice on before passing to harder materials, — a stuff on which he could engrave his pictographs with little effort, and in which he could and did copy with great ease the stone vases of Egypt.

But the crowning find is a continuous inscription, from the great cave of Psychro, on Mt. Lasethi, the *Diktaion Antron* of the Lyttians and the fabled birthplace of Cretan Zeus, undoubtedly the seat of a very ancient cult. Here, in 1895, Mr. Evans had assisted at a small excavation which produced a variety of prehistoric objects, and on his return last spring, a young Cretan had renewed the digging and was ready to hand over several ordinary Mycenaean finds. The rest of the story Mr. Evans shall tell (*Academy*, June 13, 1896, p. 494): —

"As a matter of comparatively minor importance, he added that he had also found a broken stone 'with writing' at the bottom of the earth layer. Naturally, I lost no time in securing the stone, and found it to be a dark steatite fragment, bearing part of an inscription clearly cut in characters about an inch high, arranged in a single line, belonging to the same Mycenaean script as that of the seal-stones and of a type representing the linearization of originally pictographic characters. There are in all nine letters, with probably syllabic values, remaining — apparently about half the original number — and two punctuations. At the right extremity a smaller sign is placed above that in the line below. Among the characters is observable an elongated form of the four-barred-gate symbol (*Pictographs*, No. 24 = our 141 *c*), part of the S-like figure (No. 69 b), and two fish-like signs (No. 34), which here occur together, just as on a ring-stone (*Pictographs*, Fig. 39) they follow one another, one at the end, and one at the beginning of two lines. The other forms seem to be new. That we have here to deal with a regular inscription no human being will doubt. The fragment itself appears to form part of a kind of table of offerings of quadrangular form, and originally provided with four short legs and central stem, while above are parts of two cup-shaped hollows with raised rims, of which there had apparently been three when the table was complete. By a singular coincidence I was able subsequently to obtain from a prehistoric site at Arvi, on the south coast of Crete, where several steatite vessels of Mycenaean and earlier dates had already been discovered, a parallel object of the same material, in this case perfect, but presenting only one cup-shaped receptacle, and without inscription.

"On securing this highly interesting relic I at once arranged to continue the excavation, in the hopes of finding the remaining portion; but though we dug down to the rock surface for some square metres round, nothing more of it could be discovered. I was able, however, to ascertain the fact that, above the level where the inscribed fragment lay, was an apparently undisturbed layer containing quantities of unbroken cups of Mycenaean date, and tending, therefore, to show that the broken 'table of offerings' had reached the position in which it was found — at a depth, namely, of two metres, and actually resting on the stone floor of the cave — before the close of the Mycenaean period. . . .

"It is natural to bring the steatite table, with its cup-shaped receptacle, into relation with the ancient cult of which this cave was once the centre in prehistoric times, if we may judge by the extensive deposits of figures of men and animals, both in bronze and clay, as well as of votive double axes and weapons. None of these remains belong to the classical period. The votive deposit, indeed, seems to be purely prehistoric; and one of the bronze male figures found supplies a representation of Mycenaean clothing and method of wearing the hair identical with that of the men on the Vaphio gold cups. It cannot be doubted that the broken 'table of offerings' belongs to the same period as the relics among which it was imbedded, and the inscribed characters must in all probability be regarded as forming part of a Mycenaean dedication."

CHAPTER XII

RELIGION

A difficult subject in the absence of written data

WHATEVER view we take of Mycenaean writing, it remains the fact that we have not recovered — at least we have not read — any Mycenaean scripture. The soapstone block from the cave-shrine of Zeus may bear a sacred text, but as yet we are without the key. In this total dearth of written data — of recorded ritual — it might appear futile to attempt a study of Mycenaean religion. And yet we possess documents, objective or representative, to teach us not a little of the religious faith and practice of the people whose palaces and tombs, whose ways in life and death, are fairly well known to us. These real scriptures are naturally richer in their revelation of man's future as he conceived it than in aught they have to tell us about the origin of things. Still, a French zoölogist[1] has read in Mycenaean vase-paintings the whole theory of evolution by spontaneous generation; he has caught deep-sea protoplasm (in the form of a huge polyp) in the very act of bursting into an eruption of life, — fish, flesh, and fowl, including even the fretful porcupine.[2] Man does not appear on the scene, but he must have been on hand in the person of the painter who (as Perrot puts

[1] M. Houssay, known to archaeologists in connection with M. Dieulafoy's expedition to Susiana.

[2] His chief document is a stirrup-handled amphora found by Hamdi-Bey in the necropolis of Pitane, near Smyrna; another is a funerary urn from Crete. Both are published by Perrot, *Myc. Art.*, Figs. 480–482.

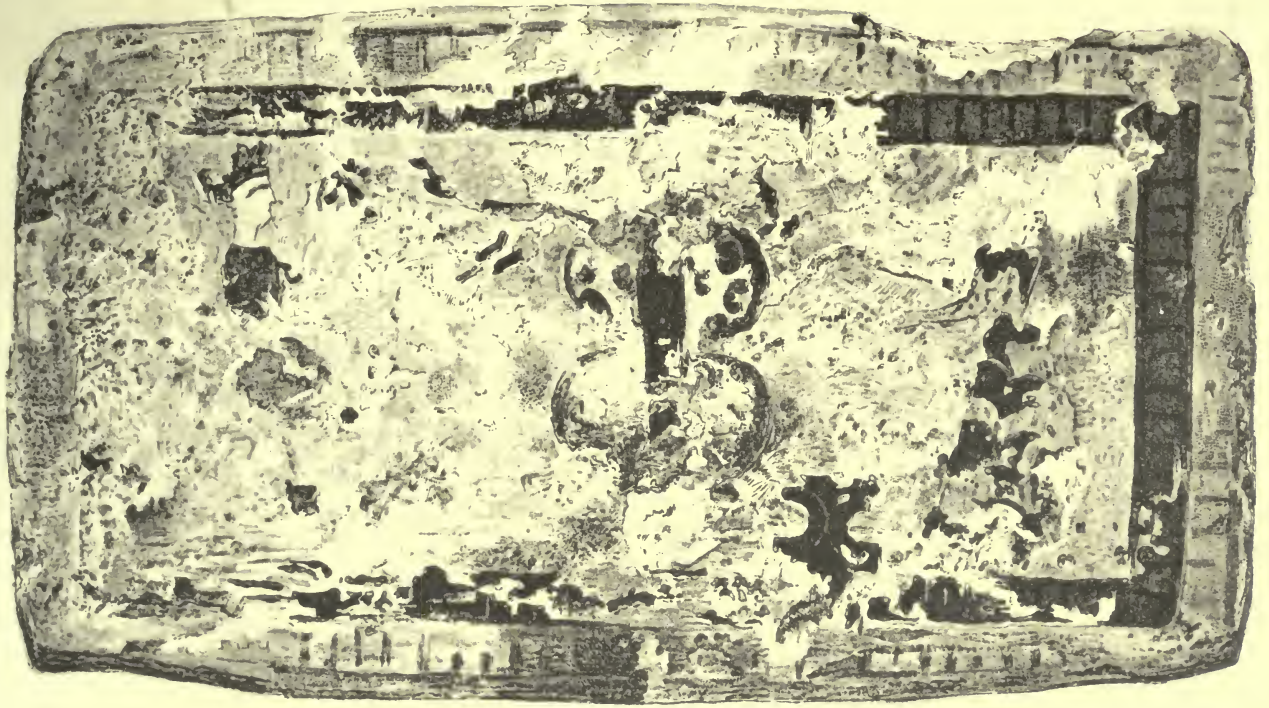


PLATE XX. WORSHIP SCENE PAINTED ON TABLET (FOUND IN PRIVATE HOUSE AT MYCENAE)

it) "has chalked out a new chapter of Genesis, which Thales was subsequently to write."

Now we can hardly believe that the Mycenaean man was old enough to know so much or young enough to have forgotten so little; and the potter's Genesis must wait for further proof. But of religion proper we have documents whose interpretation can admit of no doubt. Such are the actual altars at Mycenae and Tiryns; the funeral offerings and the clear traces of continued ministration to the dead; the adoration scenes occurring in Mycenaean art; the rude images which are hardly less abundant in Mycenaean remains than the eikon in modern Greece or the crucifix in Catholic countries.

Positive data

To begin with the last. We have considered briefly in a previous chapter the rude marble idols which abound in the prehistoric graves of the Cyclades, and which are uniformly found in association with pottery of a most primitive type. This pottery finds its nearest counterpart in that of the Burnt City on Hissarlik, where we meet with terra-cotta images as rude, and often altogether grotesque, as when one figure stands erect on another's head. Of these idols Dr. Schliemann collected about 700, all of the same shape — representing in the rudest possible outlines a female form. From their owlish faces and the absence of any articulation of the lower limbs, he conceived them to be copies of the ancient Palladium, which was fabled to have fallen from heaven; and with the same active fancy he saw in the countless "owl-head vases," occurring with these, sacred utensils for the exclusive service of the goddess.[1]

Idols: marble in the Aegean

terra cottas at Troy

[1] See *Ilios*, p. 329. In the face of this profusion of idols, it is curious to recall the fact noted by Mr. Gladstone (*Homeric Synchronism*, p. 65), that "we find in Homer but one clear instance of an image for religious worship. The solemn procession in the sixth Iliad (297–303), carries the dedicated veil or

As the Trojan idols are chalked with owl-like features, those of Mycenae often seem moulded in the form of a woman with horns or with a cow's head. These Dr. Schliemann picked up by the hundred even in the uppermost archaic strata along with other types less grotesque if not more human. Again, at Tiryns he found in every room of the palace the same types even more rudely modeled and unpainted. And he remarks the strong contrast between the rudeness of their execution and the advanced art so conspicuous in the decoration of the palace and its painted vases — showing how religious conservatism had consecrated these divine simulacra as it continued to consecrate the wooden *xoana* in the very presence of the Phidian masterpieces.[1]

in Argolis

To the rude marbles of the Aegean and the rude terra-cottas of other Mycenaean centres must be added images in glass paste, in bone, in lead, in bronze, and even in gold. A remarkable female image in lead from the Burnt City is reproduced by Schliemann,[2] and the Kampos statuettes (Plate XVII.) have been taken for idols. Two bronzes from Tiryns and Mycenae we have already given (Figs. 52, 53), as well as several examples in gold-leaf.

Idols in lead, bronze, etc.

55 56

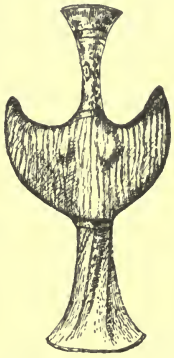
robe to the temple of Athena, where the priestess Theano receives it and deposits it on the knees of the goddess — *θῆκεν Ἀθηναίας ἐν γούνασιν ἠϋκόμοιο.*"

[1] While the peculiar rudeness of these Tiryns figures is far more marked than that of the rudest idols of Mycenae, Orchomenos and Troy, equally rude ones of a similar type have been found at Eleusis and Athens, among them 89 unpainted terra cotta idols from the lowest layers of débris on the Acropolis, and now in the Acropolis Museum. For reproductions of long series of these idols, see *Tiryns*, Nos. 77–96 and Plate xxv.; *Mycenae*, Plates A, B, C, D, and xvi.–xix.; *Ilios*, Nos. 193–226 (with owl-headed vases, Nos. 227–242). And for the best general series irrespective of provenance, Perrot & Chipiez, *Myc. Art.*, Figs. 321–350. For the Aegean marble idols, see Evans, *Pictographs*, Figs. 124–135, and Wolters, *Ath. Mitth.* xvi. 46 ff.

[2] *Ilios*, p. 377.

Of the function of these figures there can be no reasonable doubt; they are images of deity, the first awkward attempts of faith to body forth its object. But can we discover in these rude representations any deity we dare name? That depends largely upon our

Deities identified



Figs. 151, 152. Terra-cotta Idols (Mycenae)

mental attitude. Dr. Schliemann, with his simple trust in Homer, could have no hesitation in recognizing Athene *glaukôpis* in the owl-faced idols of Troy, and Hera *boôpis* in the bovine images of Mycenae. But apart from such obtrusive criteria, too much like Homeric labels on Mycenaean works, there are others which speak a language of their own. For example, we have the oft-recurring figure of a female with rudely formed arms crossed upon the breast or even clasping a child, often with the *vulva* strongly marked. In these maternal figures we must recognize the goddess of generation, call her by what name we will. It was thus, we know, that the Phoenician and other Orientals represented their Astarte whom the Greeks identified with Aphrodite, though in certain attributes she may have been the prototype of Artemis as well. In the gold-leaf figures we have Aphrodite with her unmistakable

emblem, the dove fluttering about her. And Schliemann's "helmeted warrior in bronze" from Tiryns, as well as its fellow from Mycenae, might have passed for the war-god himself.

Works of Sacred Art

But not only did the Mycenaeans make images of their gods; they also pictured them on their signets and in their paintings. On their engraved gems we often meet with a goddess whom we have not identified among their idols. She is a buxom figure, with full breasts and broad hips, now with the bended bow (Fig. 153), now throttling a goat (Figs. 154, 155), now grasping the necks of a brace of birds (Fig. 105). If Aphrodite is betrayed by her doves, we certainly have here

Engraved gem

Figs. 153–155. Artemis Gems

the full insignia of Artemis, sacred goat and all — in one case with a nymph to attend her.

The Great Signet

Perhaps the most important — as it is the most warmly contested religious document of this general class — is the great gold signet which we have already reproduced and discussed as an illustration of Mycenaean dress (Fig. 65). It is a crowded picture. Overhead, we see sun and crescent moon above the cloud-canopy, and just below on the left a figure armed with notched shield and spear, while the central space is filled by a double axe; on the terrestrial level, we have a more animated group, — a stately female figure, seated under a tree, while three women approach her with offerings of flowers, and behind

the seated figure stands a fourth, apparently plucking fruit from the tree. The left-hand margin is filled up with six lion-heads. Alongside of this remarkable composition of the goldsmith we must place another of the painter, which seems to offer a key to its interpretation. On a stucco plaque on a blue ground the painter has limned in yellow and white the scene reproduced in Plate XV. The centre is occupied by a figure, precisely like the armed one of the signet, with an altar (of the form known to us in the lion-relief), and beyond this a woman who approaches with outstretched hands. On the left of the central figure appears a second woman, doubtless in the same attitude, although the painting is so far effaced that only the head and bust are now distinguishable.

Painted tablet

Here, we have unquestionably a worship-scene: of adorant and altar there can be no doubt, and in the armed figure we must recognize a symbol of deity. If that be its function here, it must be the same on the signet: we have to do with one and the same deity on both. And in the great shield and brandished spear we recognize two essential attributes of Zeus himself, — the aegis and the thunderbolt.[1]

If we are right in taking this armed figure for Zeus, then the seated woman of the signet must be Earth in one of her manifold personifications, as Dione or Demeter, and the flower-bearers either her worshipers or attendant nymphs. We should then have in this ring-design a picture of the world, — the sky with the sun and moon; Zeus, who gath-

[1] Ernest Gardner takes the armed figure of the signet, and others like it, for Palladia. "They are to be regarded as conventional and abridged representations [derived from shields] of an armed divinity. To call them Palladia is the simplest way of expressing the fact, whether it be true or not that those who made them identified this armed divinity as the goddess whom we know as the Pallas Athene of later Greece." — *Journ. of Hellenic Studies*, xii. 24.

ers the clouds and rives them with the thunderbolt, that they may water the earth; and Earth herself, with her trees, flowers, and fruits. This indeed takes no account of the lions' heads; but these may symbolize sources and streams, the only elements wanting to round out our world picture.

An interpretation somewhat similar has been offered by Milchhöfer.[1] He sees in the main group the mother of the gods, Rhea Cybele, encompassed by her nymphs; in the two-edged axe the symbol of Zeus, her son; in the armed figure a representative of the Curetes or Corybantes, who dance attendance on her, clashing spear on shield; and in the animal-heads the symbol of the lion, which was sacred to the Phrygian mountain goddess. A third interpretation is offered by Furtwängler,[2] who sees in the signet Aphrodite Ourania, ἐν κήπῳ attended by her nymphs or adorants. Others — for example, Mayer[3] — refuse to recognize in the design any religious significance whatever, and hold that it simply represents a princess with her attendants in her garden, the armed figure being only a soldier on guard in the background.

Leaving the great signet with its diverging interpretations, we pass on to another class of monuments — among them a bit of wall-painting from Mycenae, reproduced in Fig. 156; a large number of engraved gems; and a bronze vessel from Cyprus. The designs on all these represent monsters with heads of lions, horses, or asses, but in human attitudes and actions. In the fresco (Fig. 156) the painter has rudely sketched three ass-headed creatures with long manes hanging down their backs,

Monster figures

[1] *Anfänge der Kunst*, p. 136. Cf. *Arch. Ztg.*, 1883, p. 249.

[2] *Mykenische Vasen*, p. 79.

[3] *Jahrb. des deutschen Arch. Inst.*, 1892, p. 191.

tongues lolling out of their mouths, and a pole over their shoulders. Judging from other kindred designs this pole —if the fresco were intact—would have game dangling at either end. On other gems and on the Cypriote vessel we meet with similar monsters, bearing objects in their hands; and on a gem from Vaphio (Fig. 157) we have two monsters meeting, each with a pitcher in hand as if to water a plant which stands between them.

Fig. 156. Wall Painting (Mycenae)

These monuments are hard to read, but the most probable interpretation takes the creatures upon them for demons of forest, mountain, and stream, such as later Greek mythology recognizes in various hybrid forms, most familiarly in that of the Satyr. Greek art never so far humanized these as to take them quite out of their connection and companionship with the brutes; and like the Centaurs they occupy themselves very much as do the creatures on these Mycenaean monuments, with mountain ranging, hunting and the like.

Spirits of the wild

Fig. 157. Vaphio Gem.

We may then take the ass-headed creatures returning with the spoils of the chase, and others of that ilk, for archetypes of the Satyr and kindred demons. The pitcher-bearers probably represent the genii of streams. The ancient Greeks, we know, were fond of likening their rivers to different animals — as the serpent, ram, wolf — in view

of their stealthy winding course or their impetuous and destructive currents. Witness their significant river names, — Ophis, Krios, Lykos. Moreover, in Greek art we often see a river represented either as a bull outright, or with a human head and bovine body, or the other way about. Thus Sophocles describes the river Acheloos, in his various transformations as Deianeira's suitor — when he appeared —

> "At one time in a bodily form as bull,
> Then as a dragon wound his speckled length,
> And then with human trunk and head of ox." [1]

It was thus the fountain-spout among the Greeks took the shape of a boar's or lion's head, — a type which was transferred from the fountain to the dwelling to do duty there as a gargoyle. Finally, in Alexandrian times Greek art adopted as its peculiar river-symbol the very vessel which we find in the hands of the figures in question on the Mycenaean monuments, — namely, the hydria or pitcher. Late as this symbolism is, it seems to have been anticipated by the artist of the Vaphio gem, whose demons are using their pitchers to water a plant.

Such, in brief, is the sum of what the extant monuments have thus far revealed to us more or less clearly about the Mycenaean divinities. Meagre as are the data, they may justify a few generalizations. In the first place, we observe that female deities decidedly outnumber the male. With barely the two exceptions of the tablet and the ring, on which we have ventured to recognize Zeus, the monuments give us goddesses exclusively, Aphrodite, Artemis, Hera, Earth, etc.[2] This is not surprising in view of the fact that even in historic times,

Preponderance of female divinities

[1] *Trachiniae*, tr. Plumptre, 11 ff.

[2] This does not include the idols, among which we should have to consider the bronze and lead statuettes as well as three marble images from Amorgos and Antiparos, which are unmistakably male. (See Wolters, *l. c.* p. 51.)

when all Greece accepted Zeus as the sovereign of the gods, most cities still gave the first place in their worship not to him, but to some female deity. Thus Argos and Mycenae are already in Homer sacred to Hera; Athens is the city of Athena; Eleusis of Demeter and Kore; Corinth of Aphrodite; in Arcadia the cult of Demeter is rooted in a dateless antiquity, as is that of Artemis; and finally, even at Olympia, preëminently sacred to Zeus as it was, Hera's temple was the earliest and long the only shrine. Without stopping now to consider whether and how far the fact betrays an Asiatic influence, we observe that the farther back we go the more marked is this preponderance of female deities. The inference is not based on the sole example of Olympia. At Delphi, as well, we find Apollo preceded by Themis, and Themis by Gê.

A second conclusion, warranted by our data, is no less significant. With the exception of Aphrodite, whose cult was brought in by the Phoenicians, all the female deities identified on our monuments are but slightly differing forms of that goddess whose worship is primeval — Mother Earth, the universal life-giver. From this point of view a most interesting deity is Artemis, who appears on Mycenaean monuments under a form quite different from that which she assumed in the mythology of the poets. In Homer and the later literature she is presented as a virgin preëminently austere and chaste, daughter of Zeus and sister of Apollo, a huntress-queen ranging the mountains with her nymphs. But in myths and ritual of a local character, there persisted even in historic times indelible traces of an older Artemis with a far wider range and rule. In fact these survivals show that in primeval days Artemis was universally worshiped as the great Nature-goddess, queen

Chiefly forms of primeval Gê

Artemis in her primitive character

of men and beasts (πότνια θηρῶν), whether to give life, or guard it, or destroy. In this character she is not the chaste maiden, but the matron, and she appears in certain myths as consort or favorite now of Zeus, and again of Apollo. As nature-goddess she is also goddess of death, which is nature's inexorable order. It is in this office she bears the bow, not only to bring down her mountain game, but to visit mortal women, as Apollo visits men, with the kindly shafts of fate.[1]

It is this primitive Artemis we meet in the Mycenaean age. Not only do we see her as the sinewy virgin huntress with bow or booty in hand, but also as the plump matron with full breasts and broad hips that emphasize the maternal function.

Cultus scenes

Of acts of sacrifice and worship we have several representations. The first of these is on the painted tablet already described. But a still clearer illustration is afforded by a gold ring (Fig. 66) on which we see three women, all bearing branches, while the hindmost carries a knife as well. Each holds one hand uplifted in adoration before a structure which is obviously meant for a temple. In fact it is very like the gold-leaf shrines from the Royal Graves at Mycenae except that it has but one doorway to their three. Above, on the right, appears a vertical line to indicate the elevation of the clerestory for whose detail the space is too crowded. Here, then, we are undoubtedly witnessing an act of worship. Even without the temple the uplifted hands, the branches, and the knife would be sufficient evidence of this. A kindred subject is engraved on a gold ring, first published by Furtwängler.[2]

[1] According to Robert's interpretation (Preller, *Gr. Myth.*, ed. 4, p. 29 f.) the name Ἄρτεμις = ἄρταμις, *a slayer*.

[2] *Mykenische Vasen*, Text, p. iii.

Here again we have the temple on the right; before it a seated female figure, — clearly a goddess, — holding up a mirror, and a woman approaching with hand uplifted in the attitude of worship. A third gold ring found recently (1895) in a rock-hewn tomb at Mycenae offers a further detail. Before a temple stands a man with his right hand raised in prayer; a goat by his side is obviously the victim to be offered; while two trees in the background clearly indicate a sacred grove.

This testimony establishes two facts: first, that the Mycenaeans worshiped gods; second, and more important from an archaeological standpoint, that they had already built them temples. This is clearest in the case of Aphrodite. Hers were the gold-foil shrines of Mycenae, as the doves upon the roof bear witness; and, if this were not enough, we find her Paphos temple as figured on Cypriote coins agreeing in every essential with these Mycenaean models.[1] Further, in the female with the mirror seated before the sanctuary, on his ring, Furtwängler has recognized Aphrodite, and the identification seems beyond dispute. The shrine approached by the three adorants upon our ring must, then, be assigned to the same goddess.

The temple evidenced in art

The sum of this testimony, now, can establish nothing further than the existence of Aphrodite temples, built on

[1] "This resemblance is so obvious that it cannot fail to strike any observer at first glance; but it is not merely superficial, and a careful examination only tends to confirm the view that the same model was imitated both by the artist of the Mycenaean plate and by the designer of the Roman coin. We can hardly suppose that both had seen the same building; but the type of the Phoenician shrine must have remained almost unchanged: if the gold plate does not represent the temple of Paphos itself, then it must reproduce a type of which Paphos was, at least in later times, the characteristic representative." (E. A. Gardner, in the *Journal of Hellenic Studies*, ix. 213 f., where a full account is given of the excavation of this temple as well as of its architectural history.)

the ground-plan which was perpetuated in her historic sanctuary at Paphos. Of temples to other gods we learn nothing, either from these monuments, or from the Mycenaean sites in Greece. At Mycenae itself, which has been more thoroughly explored than any other prehistoric Greek city, we have as yet found no traces of a building whose plan or furnishings would justify us in taking it for a temple. The ruins indeed were strewn not only with terra-cotta idols, but with terra-cotta kine, in which we recognize the cheap substitutes for actual victims. But these do not prove the existence of temples, for they could have been offered as well on the household or outdoor altars.

but no actual example recovered in Greece

Such are the results, positive and negative, thus far reached regarding Mycenaean temples in Greece. But since 1893 we have new evidence from Troy. In that and the following year, Dr. Dörpfeld not only demonstrated the existence of a Mycenaean city in the sixth stratum (instead of the second), but laid bare sixteen of its buildings. Among these are the foundations of an edifice 27½ feet wide, with a vestibule less than 7 feet deep and a hall 50 feet in length. This hall, or cella, had a central row of three columns — one of the stone bases being still *in situ* — which divided it into two naves. This is the only trace of columns yet found at prehistoric Troy; but in the ancient temple discovered by Koldewey,[1] at the neighboring Neandria, a row of seven columns divides the cella into two naves, just as the three columns divide this edifice at Troy. It is true that the Trojan structure opens to the north-west, against the Hellenic law of temple orientation, but the temple at Neandria shows the same peculiarity. In view of these and other considerations, Dr. Dörpfeld

Temple remains at Mycenaean Troy

[1] 51*tes Berliner Winckelmannsprogram.*

thinks it possible that this may be a temple. In the case of Mycenae and Tiryns the absence of primitive temples tallies with the silence of Homer; at Athens and Troy we have Homeric authority for expecting them. Both Iliad[1] and Odyssey[2] attest a sanctuary of Athene on the Acropolis of Athens, to which the "old temple" discovered by Dörpfeld between the Parthenon and the Erechtheion may be not distantly related. At Troy we have Homeric evidence for two temples, one of Apollo[3] and another of Athene.[4]

But if the excavations and the few monuments thus far recovered do not solve the problem, there are other considerations which make it probable that the temple, — and indeed the Hellenic temple with pitched roof and pediment as distinguished from the type of Aphrodite's sanctuary at Paphos — goes back as far as the Mycenaean age. It is a familiar fact, often observed and scarcely requiring further demonstration, that the Greek temple was modeled on the ground-plan of the megaron or princely hall; but as early as Mycenaean times these halls had come to be built with flat roofs after the Oriental fashion. The Greek temple, on the other hand, is always characterized by the gable.[5]

Pediment form proof of primitive origin

It looks, then, as if temple-building had begun before the horizontal roof was introduced into Greece, or at least before it came into common use there; and, when it became the fashion later in secular architecture, the pitched roof was already so consecrated by tradition that sacred architecture could not dispense with it.

In any case it is hardly probable that there were in the Mycenaean age many structures built expressly for the

[1] *Iliad*, ii. 546. [2] *Odyssey*, vii. 80 f.
[3] *Iliad*, v. 446. [4] *Ib.* vi. 88 ff., 297 ff.
[5] The Heraion at Olympia must be excepted.

gods, and set apart for their worship. The temple, as we have seen, is still an unfamiliar thing in Homer, nor was it a necessity of primitive religion. At the well of the nymphs on Ithaca Homer gives us one glimpse of a wayside altar cult without either image or shrine.[1] "But as they fared along the rugged path, they drew near to the town, and came to the fair-flowing spring, with a basin wrought by hand, whence the people drew water. This well Ithacus and Neritos and Polyctor had builded. And all around was a grove set circle-wise of poplars that grew by the waters, and a chill stream fell down from a rock on high, and above was reared an altar to the nymphs, whereat all wayfarers made offering." [2] The nymphs' well was the adytum of one of those oldest sanctuaries reared by Nature's own hand; for the groves were God's first temples, literally so, with the Greeks as well as with the North Europeans. The oldest expressions in German as in Greek, according to Jacob Grimm, cannot be dissociated from the idea of the holy grove. "Temple and forest are convertible terms. What we conceive of as

Temples not made with hands

[1] *Odyssey*, xvii. 205 ff.

[2] In Cyprus, Ohnefalsch-Richter claims to have identified twenty-eight ancient places of worship without temples, and among them one which offers a striking analogy with this nymphs' well of Ithaca. "The scene at Lithrodonda (near the ancient Idalion) reminded me of Homer's description, only the water flows out from under a wall of rock in a glen. Bushes grow luxuriantly around, while between the spring and the cliff is a flat table rock, not extensive enough to support any structure larger than a small shrine. Removing part of the silt from the small rock platform above the spring, we found between 20 to 30 c. of ashes and cinders, imbedded in which the lamps and coins lay. Many are left on the spot so that any one who wishes to verify my report may do so. It was evidently customary for travelers who took a cooling draught at the spring to offer a lighted lamp and a few coins, and besides, a small burnt offering of dried twigs. Can a better illustration of the nymph's fountain and grove at Ithaca be imagined than the sacred spring hidden among the trees on the face of the rock, at Lithrodonda?"

a house built and walled in passes, the further we go into early times, into the idea of holy ground, hedged in and surrounded by trees never touched by the hand of man."[1] A great tree might be the house of a god, as the elm in whose bole Ephesian Artemis had her oldest habitation, or the Dodonaean oak of Zeus.[2] But it was not only in the forest that early man sought his gods; the hilltop and the cavern were also divine abodes, the former destined to grow in favor as temple sites, the latter to be consecrated as oracular seats. Occasionally the two are united as in the Cynthian shrine. Fortunately, we can now put in evidence one of these actual cave-temples of the Mycenaean age. In the Diktaean grotto, hallowed as the birth-place and sanctuary of Cretan Zeus, the spade has borne out immemorial tradition by bringing to light a votive deposit of purely prehistoric character and one so extensive as to attest the age-long continuance of holy rites. At the very bottom of this deposit on the living rock was found the "table of offering" with its inscription (see page 293) which may prove to be our first sacred text from Mycenaean hands.

After all, the altar in the house or in the open air must have satisfied the simple requirements of Mycenaean worship and sacrifice, while temples served mainly as dwelling-places for the gods; that is to say, for the *xoana* or wooden images that stood for them. Even these *xoana*, however, must have been still unusual, if we may judge from the silence of Homer. The altar (*βωμός*) was either a simple heap of stones, such as we see before the goddess on the great signet (Fig. 65), or a more regular structure like that on the painted tablet — in either case

The altar

[1] *Deutsche Mythologie*, i. 59.

[2] Schrader, *Prehistoric Antiquities*, 277 f., who thinks it highly probable that *ναός* (temple) originally meant a "tree trunk."

raised to a considerable height above the ground. In the house the holiest altar was the hearth itself, Homer's ἐσχάρη. Thus, when Achilles has made ready the banquet for the embassy, and bids Patroclus do sacrifice to the gods, the latter casts their portion into the fire.[1] Of altars in the strict sense — that is to say, those designed solely for sacrifice — Homer makes frequent mention. We find them in the palaces of Peleus and Odysseus and Priam. These altars were sacred to Zeus Herkeios, the guardian of the house; they must be conceived, as we know from various works of art that the later Greeks did conceive them, as raised platforms whereon victims could be burned to the god who rejoiced in the ascending savor. Thus very great importance attaches to the discovery of an altar in the courtyard at Tiryns. While emphasizing the correspondence between the Homeric and the Mycenaean palace, it goes to show at the same time a certain diversity between the two periods in the matter of worship. The altar at Tiryns resembles in its form neither the Homeric altar, as we have reason to conceive it, nor yet the altar as we see it represented in Mycenaean art; but it is a circular structure raised only some fourteen inches above the level of the court, and hollow in the middle like a well. It is really a raised pit like that found above the fourth grave at Mycenae. In the latter case, however, the pit is what we should expect as the proper medium for oblations to the dead, the drink and blood offerings supposed to find their way through it to the departed in the underworld.[2] But the altar in the palace-court at Tiryns, if sacred to Zeus, who dwells on high, should be not a pit

at Tiryns

[1] *Iliad*, ix. 220.

[2] In the Dipylon age the same purpose was served by great vases with perforated bottoms imbedded in the earth. See Pernice, *Ath. Mitth.* 1893, p. 155.

but a raised platform, such as we see on the gold ring or the painted tablet. To whom, then, was it dedicated?

Some years ago, before the discovery of the palace at Tiryns, Fustel de Coulanges[1] undertook to show that, with the Greeks as with other kindred races, the worship of the gods grew out of the worship of ancestors. Man, he says, worshiped the dead before he worshiped Zeus; he feared them, and so addressed to them his prayers. In this way, apparently, the religious sentiment originated. It was, perhaps, while looking on the dead that man first conceived the idea of the supernatural, and began to have a hope beyond what he saw. Death was the first mystery, and it put man on the track of other mysteries. It raised his thoughts from the visible to the invisible, from the transitory to the eternal, from the human to the divine.[2] Each man's ancestors were his first gods, who guarded him and his, and, out of the depths of the earth wherein they dwelt, sent up health, wealth and happiness. They were the sole Herkeioi, "protectors." But later, when, in its splendid unfolding, the cult of Zeus so overshadowed the primitive ancestor-worship that he came to be regarded as the author of all good and evil in the world, the sole source of bane and blessing, then Zeus was installed as protector (Herkeios) in the court of the dwelling, and the altar there was ceded to him.[3]

Origin of Religion in ancestor-worship

[1] In his justly celebrated work, *La Cité Antique.*

[2] De Coulanges, *The Ancient City*, tr. Willard Small, 28 f.

[3] Herbert Spencer has sought the ground of all religion in the same sentiment and practice; and with the Japanese, we are told, it is still a living faith. Says a recent writer: "To Japanese thought the dead are not less real than the living. They take part in the daily life of the people, sharing the humblest sorrows and the humblest joys. They attend the family repasts, watch over the well-being of the household, assist and rejoice in the prosperity of their descendants. They are present at the public pageants, and at all the entertainments especially provided for them. And they are universally thought

As a final account of universal religion, the hypothesis does not come within the scope of the present inquiry; and even as an account of Greek religion it has not found wide acceptance.[1] Still, the altar-pit in the court of the palace at Tiryns certainly gives color to the theory. It proves at least that the Herkeioi were there honored with the offerings (*ἐναγισμοί*) and ritual peculiar to the dead. The gods must have been conceived, namely, as dwelling beneath the earth, doubtless as ancestral heroes of the race, and thence vouchsafing their protection to the house. But the Mycenaean belief in the continued presence and power of the dead hardly requires further proof after all we have learned of the sacrifices at the tombs, for men offer sacrifice only to beings whose favor they seek or whose displeasure they dread. In Homer, indeed, this belief, and with it the worship of the dead, is only a reminiscence; but there is enough to show that somewhere and some time it had been the living faith and practice of the Greeks. Witness, particularly, Odysseus' oblations in the underworld — "a drink offering to all the dead" — accompanied by a vow that on his return to Ithaca he would "offer in his halls a barren heifer, and fill the pyre with treasure, and apart unto Teiresias alone sac-

Bearing of the altar-pit on this hypothesis

Cult of the dead flourishing in Mycenaean times

obsolete in Homeric age

of as finding pleasure in the offerings made to them or the honors conferred upon them." The feeling toward the dead is one "of grateful and reverential love. It is probably the most profound and powerful of the emotions of the race — that which especially directs national life and shapes national character. Patriotism belongs to it. Filial piety depends upon it. Family love is rooted in it. Loyalty is based upon it." — Lafcadio Hearn, *Kokoro*, 270, 282 f.

[1] To Rohde (*Psyche*, p. 156, n. 2), it is only an intuition which may be true, but is incapable of proof. Schrader (*Prehistoric Antiquities*, 424 f.) finds the evidence insufficient to establish ancestor-worship as a primeval Aryan institution.

rifice a coal-black sheep." With the Ionian race, to whom more immediately we owe the Homeric poems in their final form, this Chthonic faith died out at an early day; it belonged to a race that buried its dead and could hardly persist with the practice of cremation. As a consequence, ancestor-worship in the court would give way to the worship of Zeus Herkeios. But in post-Homeric times there crops out again in new vigor that sense of the power of the dead which had certainly never been quite lost in the consciousness of the people; and this belief lived on in full force even through the very ages of Hellenic bloom. In the earliest known Athenian code, Draco enjoined the common worship of the gods and ancestral heroes according to the usage of the fathers, thus obviously reaffirming under legal sanctions an immemorial practice which the Attic graveyards of the geometrical period now abundantly attest.[1] Athenian family law is built upon it: in historical Attica, as in Vedic India, "to be a man's heir, and to offer the dead man's meal to him are convertible expressions." The family lawyer Isaeus attests its operation on every page of his speeches; and so when the poets invoke its sanctions they are not dealing with a worn-out and forgotten belief. The people who thronged the Athenian theatre had invented adoption solely "that they might not leave their houses desolate, but have some one to offer sacrifices to them and perform for them all the hallowed rites."[2] They must have been quite prepared, then, to see Orestes and Electra approach as suppliants their father's tomb and hear them vow him the customary sacrifices as they invoke his aid in their mission of vengeance and whet his rage by recalling the deep damnation of his taking off.[3]

Revives in historical Greece

[1] See Rohde's *Psyche*, p. 137; *Ath. Mitth.*, *l. c.*

[2] Isaeus, vii. 30.

[3] Aeschylus, *Choephoroi*, 479 ff.

Nor would there be aught alien to their feeling in the prayer Euripides[1] puts into the same avengers' mouths: —

"Thou, too, my father, sent to the land of shades by wicked hands, up and champion thy dear children. Come with all the dead to aid, with all who helped thee break the Phrygians' power and all who hate ungodly crime. Dost hear me, father, victim of my mother's rage?"

Assuredly a faith, which retained so much vitality in the unbelieving age of Anaxagoras and Socrates, may well have flourished in the primitive society whose culture we are studying. That the worship of the dead actually had a large place among the Mycenaeans, their tombs bear witness almost with an audible voice. That it went as far even as the immolation of human victims, we have reason to believe; and, with the suttee persisting on the Ganges down to our own day, we need not stop to moralize about this prehistoric barbarity. Whether or not this ancestor-worship was the root of all their religion, we know that other cults came to exist side by side with it. If Indo-European comparative philology has established one divine equation, it is that of a *Zeus patêr* — a "sky-father" — who follows our Aryan progenitors in their dispersion and whose name continues to be above every name to Hindoo, Hellene, Roman, and Teuton alike.[2] It is this supreme sky-god we seem to recognize in his primitive Aryan character on the Great Signet from Mycenae; and, if the Mycenaean could really claim an Aryan birthright in blood and faith and speech, it is there in the open sky and with those attributes of aegis and lightning-spear and axe he would conceive him, and by that name he would invoke

Other Mycenean cults

[1] *Electra*, 677 ff., tr. E. P. Coleridge.

[2] Cf. Schrader, *l. c.* 419; Sanskrit, *Dyâus pitâ*; Greek, Ζεὺς πατήρ; Latin, *Ju-piter*; Teutonic, *Tiu*, *Zio*; Indo-Eur., *Djeus*.

him. With him we have a troop of goddesses closely associated with the fruitful earth, as he is with the fructifying sky. And, further, there are spirits of the wild-wood and the mountain, of spring and stream, often presented to us in guises so grotesque that we seem to be spectators of a "monstrous rout." On these we have seen a whole system of totemism built up.[1]

But it is the objective data with which we have to deal; and these in chief we may sum up in the actual altars which singularly take the same form at the grave-side and in the palace-court; in the adoration scenes of Mycenaean art, where altar and temple are unmistakable and deities to be recognized as such whether we go on to name them or not; in countless idols; in one actual temple (if we may consider the identification established at Troy); and in a primitive cave-shrine with its votive deposit in Crete.

Resumé

[1] A. B. Cook on "Animal Worship in the Mycenaean Age," *Journal of Hellenic Studies*, xiv. 81–169.

CHAPTER XIII

THE PROBLEM OF MYCENAEAN CHRONOLOGY

An age without a recorded date or name

WHETHER or not the authors of this distinct and stately civilization included among their achievements a knowledge of letters, their monuments thus far address us only in the universal language of form and action. Of their speech we have yet to read the first syllable. The vase-handles of Mycenae may have some message for us, if no more than a pair of heroic names; and the nine consecutive characters from the cave of Cretan Zeus must have still more to say when we find the key. We may hope, at least, if this ancient culture ever recovers its voice, to find it not altogether unfamiliar: we need not be startled if we catch the first lisping accent of what has grown full and strong in the Achaean epic.

But for the present we have to do with a dumb age, with a race whose artistic expression amazes us all the more in the dead silence of their history. So far as we yet know from their monuments, they have recorded not one fixed point in their career, they have never even written down their name as a people.

Now, a dateless era and a nameless race — particularly in the immediate background of the stage on which we see the forces of the world's golden age deploying — are facts to be accepted only in the last resort. The student of human culture cannot look upon the massive walls, the

solemn domes, the exquisite creations of what we call Mycenaean art, without asking — When? By whom? In default of direct and positive evidence, he will make the most of the indirect and probable.

We have taken a provisional and approximate date for the meridian age of Mycenaean culture — namely, from the sixteenth to the twelfth century B. C. We have also assumed that the Island culture was already somewhat advanced as far back as the earlier centuries of the second millennium before our era. This latter datum is based immediately on geological calculations: M. Fouqué, namely, has computed a date *circa* 2000 B. C. for the upheaval which buried Thera, and thus preserved for us the primitive monuments of Aegean civilization. Whatever be the value of Fouqué's combinations — and they have been vigorously, if not victoriously, assailed[1] — we may reach a like result by another way round. The Island culture is demonstrably older than the Mycenaean — it must have attained the stage upon which we find it at Thera a century or two at least before the bloom-time came in Argolis. If, then, we can date that bloom-time we can control within limits the geologist's results.

A tentative chronology

based on concurrent geological and Egyptological evidence

Here we call in the aid of Egyptology. In Greece we find datable Egyptian products in Mycenaean deposits, and conversely in datable Egyptian deposits we find Mycenaean products.[2]

[1] See Dr. Washington's paper in the *American Journal of Archaeology*, vol. ix. 504 ff., and Cecil Torr's *Memphis and Mycenae*, 70–74.

[2] In using the word "datable," we do not ignore the unsettled state of Egyptian chronology; but it would seem safe to conduct an inquiry like this — on ground that is otherwise hopelessly dark — on the basis of a reckoning in which such authorities as Meyer, Erman and Petrie substantially agree. Down to the twelfth dynasty there is still a wide divergence, but from the eighteenth

To take first the Mycenaean finds in Egypt. In a tomb — of 1100 B. C., or within fifty years of that either way — at Kahun, Flinders-Petrie found along with some dozens of bodies "a great quantity of pottery, Egyptian, Phoenician, Cypriote, and Aegean" — notably an Aegean vase with an ivy leaf and stalk on each side, which he regards as the beginning of natural design.[1] Further, at Gurob and elsewhere, the same untiring explorer has traced the Mycenaean false-necked vase or *Bügelkanne* through a series of dated stages, "a chain of examples in sequence showing that the earliest geometrical pottery of Mycenae begins about 1400 B. C., and is succeeded by the beginning of natural designs about 1100 B. C."[2]

Mycenaean finds in Egypt

dynasty on — and these are our chief concern — the variation is but slight, as the following comparison shows: —

Dynasty	Flinders-Petrie	Meyer-Erman
XII.	2700–2500 B. C.	2130 B. C.
XVIII.	1450–1250	1530–1320
XIX.	1250–1150	1320–1180
XX.	1100–	1180–1050

Cecil Torr indeed brings the twelfth dynasty down to 1500 B. C., "at latest;" the eighteenth to 1271; the twentieth to 1000; but it will be time to reckon with this chronology when experienced Egyptologists have given it a hearing.

[1] This vase is published in the *Journal of Hellenic Studies*, xi. pl. xiv. For a very like form and identical design, see our Fig. 123.

[2] "It may be asked how we come to find such a series in Egypt. These are part of the products of that great wave of Graeco-Libyan conquest which swept almost over Egypt time after time. Under Shishak the Libyans finally entered into power in Egypt, the outcome of their invasions which had been previously repelled by Ramessu III. (1100 B. C.), by Mereuptah (1190 B. C.), and by Amenhotep (about 1600 B. C.). At the mouth of the Fayûm they were firmly established, and Aegean pottery is found there, along with customs of funeral sacrifice of property by fire. Another historical clue is found in that settlement by the supposed cloak-pins which are found in one class of Cypriote tombs. . . . These I have found in both gold and bronze; the brief history of the town dates them to about 1400–1200 B. C., and hence we reach a date for the tombs in Cyprus where they are found. Another interesting relic of these same Graeco-Libyan invasions was found at Abusir, in the middle of

But long before these actual Mycenaean products came to light in Egypt, Egyptian art had told its story of relations with the Aegean folk. On the tomb-frescoes of Thebes we see pictured in four groups the tributaries of Thothmes III. (about 1500 B. C.), bringing their gifts to that great conqueror; among them, as we are told by the hieroglyphic text that runs with the painting, are "the princes of the land of Keftu (Phoenicia) and of the islands in the great sea." And the tribute in their hands includes vases of distinct Mycenaean style.[1]

On the other hand we find datable Egyptian products in Mycenaean deposits in Greece. From Mycenae itself and from Ialysos in Rhodes we have scarabs bearing the cartouches of Amenophis III. and of his queen Ti; and fragments of Egyptian porcelain, also from Mycenae, bear the cartouches of the same king, whose reign is dated to the latter half of the fifteenth century.[2]

Egyptian finds in Greece

the Delta, and is in my possession. So far as the lower part of the figure is concerned, it is exactly copied from the Greek island figures in marble, the treatment being quite unlikely in pottery, but imitating the rounded mass and shallow grooving of the stone. The head shows, however, the Libyan lock of hair, the sign of that race. To the twelfth century B. C., we must then approximately date this figure, and with it the marble figures found in the Greek islands." — Flinders-Petrie: "The Egyptian Bases of Greek History," in the *Journal of Hellenic Studies*, xi. 273 f.

[1] See Wilkinson's *Manners and Customs of the Ancient Egyptians*, vol. i. pl. 2, ed. 1878. Cf. Steindorff, *Arch. Anzeiger*, 1892, p. 11 f.

[2] It must be frankly admitted that this line of evidence is not conclusive. While the tombs and houses in which the scarabs of a given Pharaoh are found cannot antedate his reign, the scarabs of a great ruler may have circulated (so to speak) as heirlooms long after that reign. Thus we have a scarab of a thirteenth-dynasty king (*circa* 2100 B. C.) from a shaft-grave in the Acropolis of Tarquinii which must be a thousand years later (Beloch, *Gr. Gesch.*, i. 84, note 3) and among the later Greek antiquities at Camirus, we are told, was found a scarab with the cartouch of Cheops, *circa* 3900 B. C. So in Egypt itself; at Illahun, in graves not earlier than the end of the nineteenth dynasty,

We have already noted the recurrence at Gurob, Kahun and Tell-el-Amarna of the characters which were first found on the vase-handles of Mycenae; and this seemed at one time to have an important bearing on Mycenaean chronology. But in the wider view of the subject which has been opened up by Evans' researches, this can no longer be insisted upon as an independent datum. However, the occurrence of these signs in a town demonstrably occupied by Aegean peoples at a given date has corroborative value.

Force of these facts

While it can hardly be claimed that any or all of these facts amount to final proof, they certainly establish a strong probability that at least from the fifteenth century B. C. there was traffic between Egypt and the Mycenaean world. Whatever be said for the tomb-frescoes of Thothmes' foreign tribute-bearers and the scarabs from Mycenae and Rhodes, we cannot explain away Mr. Petrie's finds in the Fayûm. The revelations of Tell-Gurob can leave no doubt that the brief career of the ancient city on that spot — say from 1450 to 1200 B. C. — was contemporaneous with the bloom-time of Mycenaean civilization.

in fixing upper limit

Now most, if not all of the "Aegean" pottery from Gurob, like that pictured in the tomb-frescoes, belongs to the later Mycenaean styles as we find them in the chamber-tombs and ruined houses — in the same deposits, in fact, with the scarabs and broken porcelain which carry the cartouches of Amenophis and Queen Ti.[1] The earlier period of Mycenaean art is thus shown to be anterior to the reign of Thothmes III.; and, as that period

Petrie was surprised to find that all the scarabs were of the early part of the eighteenth dynasty, except a few which were of the twelfth. "That all the decorations should be heirlooms is a strange fact." — *Ten Years Digging in Egypt*, p. 123. Cf. Tsountas, *Eph. Arch.*, 1887, p. 69.

[1] *Ephemeris Archaiologike*, 1891, p. 25 f.

cannot conceivably be limited to a few short generations, the sixteenth century is none too early for the upper limit of the Mycenaean age. We should, perhaps, date it at least a century farther back. Thus we approximate the chronology to which M. Fouqué has been led by geological considerations; while, on the other hand, more recent inquirers are inclined to reduce by a century or two the antiquity of the convulsion in which Thera perished, and thus approximate our own datum.

The lower limit

For the lower limit of the Mycenaean age we have taken the twelfth century, though certain archaeologists and historians are inclined to a much more recent date — some even bringing it three or four centuries farther down.[1]

This is not only improbable on its face, but at variance with the facts. To take but one test, the Mycenaean age hardly knew the use of iron; at Mycenae itself it was so rare that we find it only in an occasional ornament such as a ring. No iron was found in any of the prehistoric settlements at Hissarlik until 1890, when Dr. Schliemann came across two lumps of the metal, one of which had possibly served as the handle of a staff. "It is therefore certain," he says, "that iron was already known in the second or burnt city; but it was probably at that time rarer and more precious than gold." In Egypt, on the other hand, iron was known as early as the middle of the second millennium B. C., and if the beehive and chamber-tombs at Mycenae are to be assigned to a period as late as the ninth century,

[1] Thus Beloch, *Griech. Geschichte*, i. 85: "Auch sonst kann kein Zweifel sein, dass die mykenaeische Kultur in Griechenland bis in das viii. Jahrhundert geherrscht hat." And Flinders-Petrie ("Notes on the Antiquities of Mycenae," *Journal of Hellenic Studies*, xii., 204 f.) reaches a like result. "To this age of Mycenaean decadence, namely from 1100 to 800 B. C., belong the beehive tomb of Menidi and the private tombs of Mycenae, Spata and Nauplia."

the rare occurrence of iron in them becomes quite inexplicable.[1]

From the seventeenth or sixteenth to the twelfth century B. C., then, we may regard as the bloom-time of Mycenaean culture, and of the race or races who wrought it out. But we need not assume that their arts perished with their political decline. Even when that gifted people succumbed to or blended with another conquering race, their art, especially in its minor phases, lived on, though under less favoring conditions. There were no more patrons like the rich and munificent princes of Tiryns and Mycenae; and domed tombs with their wealth of decoration were no longer built. Still, certain types of architecture, definitively wrought out by the Mycenaeans, became an enduring possession of Hellenic art, and so of the art of the civilized world; while from other Mycenaean types were derived new forms of equally far-reaching significance.

Art lives on after national decline

The correspondence of the gateways at Tiryns with the later Greek propylaea, and that of the Homeric with the prehistoric palaces, have been discussed in another chapter. We have remarked, too, the obvious derivation of the typical form of the Greek temple, consisting of vestibule and cella, from the Mycenaean megaron. That the Doric column is of the same lineage is

as shown by influence on Greek architecture

[1] "The fact that iron as well as bronze was used for tools from the time of the 'Old Empire' (B. C. 2830–2530, at latest) can scarcely any longer be considered as doubtful, for pieces of iron tools have been found at various places imbedded in masonry of very ancient date." — Erman, *Life in Ancient Egypt*, p. 461. Cf. Montelius, *Archiv für Anthropologie*, 1892, p. 24; Schrader-Jevons, *Prehistoric Antiquities*, p. 202. On the other hand, Petrie (*Ten Years Digging in Egypt*, p. 151 f.; cf. London *Times*, Sept. 18, 1896), holds that there is no satisfactory evidence for the introduction of iron earlier than 1000 B. C. "Iron may have been known perhaps as a curiosity, but it had no effect on the arts. . . . Iron appears in Europe as soon as in Egypt."

a fact long ago recognized by the ablest authorities.[1] In fact, the Mycenaean pillars known to us, whether in actual examples as imbedded in the façades of the two beehive tombs or in art representations, as in the lion-relief and certain ivory models, while varying in important details, exhibit now one, now another of the features of the Doric column. Thus, all have in common abacus, echinus, and cymatium — the last member adorned with ascending leaves just as in the earliest capitals of the Doric order.[2] Again, the Doric fluting is anticipated in the actual pilasters of "Clytemnestra's tomb," and in an ivory model. And as the Doric column has no base, but rests directly on the stylobate, so the wooden pillars in the Mycenaean halls appear to rise directly from the ground in which their stone bases are almost entirely imbedded.[3]

That Mycenaean art outlasted the social *régime* under which it had attained its splendid bloom is sufficiently attested by the Homeric poems. Doubtless, the Achaean system, when it fell before the aggressive Dorian, must have left many an heirloom above ground, as well as those which its tombs and ruins had hidden down to our own day. And, again, the poems in their

by Homeric poems

[1] Adler : Schliemann's *Tiryns*, xl. ; Furtwängler and Löschcke, *Myk. Vasen, Text*, xv. ; Puchstein, *Ionisches Kapitel*, p. 51.

[2] In the lion-relief the ring of leaves, elsewhere carved, was no doubt represented by colors.

[3] Evans has now found near Kalamafka in Crete, "part of the upper extremity of a small fluted column (about 115 mill. in diameter) of gray Cretan marble in one piece, with part of the swell of its capital. Though in a mutilated condition, it presented features distinct from the Doric type. There was no trace of ἴμαντες or encircling channels, and the rounded ends of the flutings slightly overlapped on to the spring of the echinus. The associations in which it lay, the parallelism with the *kymation* of the half-capital from the 'Grave of Atreus,' show that we have here for the first time (?), an example of a Mycenaean fluted column, and also another and important link between the Mycenaean and Doric styles." — *Academy*, July 18, 1896, p. 54.

primitive strata undoubtedly reflect the older order, and offer us many a picture at first hand of a contemporary age. Thus the dove-cup of Mycenae, or another from the same hand, may have been actually known to the poet who described old Nestor's goblet in our eleventh Iliad; and the kyanos frieze of Tiryns may well have inspired the singer of the Phaeacian tale, or at least helped out his fancy in decorating Alcinous' palace. Still, it is in the more recent strata of the poems that we find the great transcripts of art-creations and the clearest indications of the very processes met with in the monuments. To take but one instance, there is the Shield of Achilles forged at Thetis' intercession by Hephaestus and emblazoned with a series of scenes from actual mundane life.[1] The subjects are at once Mycenaean and Homeric. On the central boss, for example, the Olympian smith "wrought the earth and the heavens and the sea and the unwearying sun," very much as the Mycenaean artist sets sun, moon and sky in the upper field of his great signet. Again, the city under siege, while "on the walls to guard it, stand their dear wives and infant children, and with these the old men," appears to be almost a transcript of the scene which still stirs our blood as we gaze upon the beleaguered town on the silver cup. But it is less the subject than the technique that reveals artistic heredity, and when we find Homer's Olympian craftsman employing the selfsame process in the forging of the shield which we can now see for ourselves in the inlaid swords of Mycenae, we can hardly doubt that that process was still employed in the poet's time.

In this sense of an aftermath of art, Mycenaean influence outlasted by centuries the overthrow of Mycenaean power; and the fact is one to be considered in establishing

[1] *Iliad*, xviii. 468–613.

a chronology. We have taken as our lower limit the catastrophe in which the old order at Mycenae and elsewhere obviously came to an end. But the old stock survived — "scattered and peeled" though it must have been — and carried on, if it did not teach the conqueror, their old arts. If we are to comprehend within the Mycenaean age all the centuries through which we can trace this Mycenaean influence, then we shall bring that age down to the very dawn of historical Greece. In this view it is no misnomer to speak of the Aeginetan gold find recently acquired by the British Museum (see Appendix C) as a Mycenaean treasure.

CHAPTER XIV

THE PROBLEM OF THE MYCENAEAN RACE

The Race Problem

We have seen that Mycenaean art was no exotic, transplanted full grown into Greece, but rather a native growth — influenced though it was by the earlier civilizations of the Cyclades and the East. This indigenous art, distinct and homogeneous in character, no matter whence came its germs and rudiments, must have been wrought out by a strong and gifted race. That it was of Hellenic stock we have assumed to be self-evident.

But, as this premise is still in controversy,[1] we have to inquire whether (aside from art) there are other considerations which make against the Hellenic origin of the Mycenaean peoples, and compel us to regard them as immigrants from the Islands or the Orient.

Architectural evidence.

In the first place, recalling the results of our discussion of domestic and sepulchral architecture, we observe that neither in the Aegean nor in Syria do we find the gable-roof which prevails at Mycenae. Nor would the people of these warm and dry climates have occasion to winter their herds in their own huts — an ancestral custom to which we have traced the origin of the avenues to the beehive tombs.

The gable roof

[1] The Mycenaean estate has been claimed already for Carian, Phoenician, Hittite, Goth and Byzantine; and since this chapter was in type the British Association has heard Prof. Ridgeway stoutly reasserting the prior title of the Pelasgian. (See London *Times*, September 22, 1896. Cf. J. H. S., xvi. 77–119.)

Again, we have seen reason to refer the shaft-graves to a race or tribe other than that whose original dwelling we have recognized in the sunken hut. To this pit-burying stock we have assigned the upper-story habitations at Mycenae. If we are right, now, in explaining this type of dwelling as a reminiscence of the pile-hut, it would follow that this stock, too, was of northern origin.[1] The lake-dwelling habit, we know, prevailed throughout northern Europe, an instance occurring, as we have seen, even in the Illyrian peninsula; while we have no reason to look for its origin to the Orient or the Aegean. It is indeed true that the Island-folk were no strangers to the pile-dwelling, but this rather goes to show that they were colonists from the Mainland.

The upper story dwelling

But, apart from the evidence of the upper-story abodes, are there other indications of an element among the Mycenaean people which had once actually dwelt in lakes or marshes?

Monuments like the stone models from Melos and Amorgos have not indeed been found in the Peloponnese, or on the Mainland, but in default of such indirect testimony we have the immediate witness of actual settlements. Of the four most famous cities of the age, Mycenae, Tiryns, Orchomenos and Amyclae, it is a singular fact that but one has a mountain site, while the other three were once surrounded by marshes. The rock on which Tiryns is built, though it rises to a maximum elevation of some sixty feet above the plain, yet sinks so low on the north that the lower citadel is only a few feet above the level of the sea. Now this plain, as Aristotle asserts (see page 18), and as the nature of the ground still bears witness, was originally an

City sites indicate original lake-dwellers

Tiryns

[1] Cf. Murray, *Nineteenth Century*, v. 112.

extensive morass. The founders, therefore, must have chosen this rock for their settlement, not because it was a stronghold in itself, but because it was protected by the swamp out of which it rose.[1]

Orchomenos and other Copaic towns

What is true of Tiryns holds for Orchomenos as well. The original site[2] was down in the plain until the periodic inundations of the lake forced the inhabitants to rebuild on the slopes of Mt. Akontion; and Orchomenos was not the only primitive settlement in this great marsh. Tradition tells us also of Athenae, Eleusis, Arne, Mideia — cities which had long perished, and were but dimly remembered in historic times. To one of these, or to some other whose name has not come down to us, belong the remarkable remains on the island of Goulas or Gha, which is connected with the shore by an ancient mole. During the Greek Revolution this island-fort was the refuge of the neighboring population who found greater security there than in the mountains.[3]

It is usually held that, when these Copaic cities were founded, the region was in the main drained and arable, whereas afterwards, the natural outlets being choked up, the imprisoned waters flooded the plain, turned it into a lake, and so overwhelmed the towns. But, obviously, this is reversing the order of events. To have transformed the lake into a plain and kept it such would have demanded

[1] In this connection, we may recall a curious discovery made by the engineer Solymos while deepening the harbor of Nauplia in 1883. At a depth of eight feet below the shallow bottom, near the arsenal, he found, among other pottery of "a style quite unprecedented," an almost perfect vase some eight inches high. Thus the alluvial accumulation since the vase was deposited amounts to eight feet, and the discoverer is probably right in his conjecture that this primitive pottery belonged to a pile-settlement in this quiet corner of the bay. — See Παρνασσοῦ, τόμ. Ζ', 1883, p. 32; cf. Lampros, *Historika Meletemata*.

[2] Strabo, ix. 2, 42.

[3] See Appendix B.

the coöperation of populous communities in the construction of costly embankments and perpetual vigilance in keeping them intact. Where were such organized forces to be found at a time anterior to the foundation of the cities themselves? Is it not more reasonable to believe that the builders of these cities — instead of finding Copaïs an arable plain, and failing to provide against its inundation — were induced by the very fact of its being a lake to establish themselves in it upon natural islands like the rock of Goulas, on artificial elevations, or even in pile-settlements?[1] It is possible, indeed, that on some unusual rise of the waters, towns were submerged, but it is quite as probable that without any such catastrophe the inhabitants finally abandoned these of their own accord to settle in higher, healthier and more convenient regions.

Amyclae

The case of Amyclae is no exception. The prehistoric as well as the historic site is probably to be identified with that of the present village of Mahmoud Bey, some five miles south of Sparta. The ground is low and wet and in early times was undoubtedly a marsh.

Thessalian settlements

In the plain of Thessaly, again, we may trace the same early order. There, where tradition (backed by the conclusions of modern science) tells us that the inflowing waters used to form stagnant lakes, we find low artificial mounds strewn with primitive potsherds. On these mounds, Lolling holds,[2] the people pitched their settlements to secure them against overflow.

The choice of these marshy or insulated sites is all the more singular from the environment. Around Lake Copaïs,

[1] Long ago, Finlay (*Observations on the Prehistoric Archaeology of Greece and Switzerland*, p. 19) thought it probable that lake-dwellings once existed in Copaïs and other parts of Greece.

[2] *Ath. Mitth.* 1894, 99 ff.

about Tiryns and Amyclae, as well as in Thessaly, rise mountains which are nature's own fastnesses and which would seem to invite primitive man to their shelter. The preference for these lowland or island settlements, then, can only be explained in the first instance by immemorial custom and secondly by consequent inexperience in military architecture. Naturally, a lake-dwelling people will be backward in learning to build stone walls strong enough to keep off a hostile force. And in default of such skill, instead of settling on the mountain slopes, they would in their migrations choose sites affording the best natural fortification akin to their ancient environment of marsh or lake — reinforcing this on occasion by a moat, an embankment, or a pile-platform.

Why chosen

That the people in question once actually followed this way of living is beyond a doubt. Amyclae shows no trace of wall, and probably never had any beyond a mere earthwork. The Cyclopean wall of Tiryns, as it now stands, does not belong to the earliest settlement nor is it of uniform date. Adler holds that the first fortress must have been built of wood and sun-dried bricks.[1] This construction may possibly account for those remarkable galleries whose origin and function are not yet altogether clear. The mere utility of the chambers for storage — a purpose they did unquestionably serve — hardly answers to the enormous outlay involved in contriving them. May we not, then, recognize in them a reminiscence of the primitive palisade-earthwork? In the so-called Lower Citadel of Tiryns we find no such passages, possibly because its Cyclopean wall was built at a later date. Likewise no proper galleries have yet been found at Mycenae, and it is highly improbable that any such ever existed there. What

Earthworks before Cyclopean walls

[1] *Tiryns*, xii. f.

had long been taken for a gallery in the north wall proves to be nothing but a little chamber measuring less than 7 by 12 feet. Obviously, then, the gallery was not an established thing in fortress-architecture, and this fact shows that it did not originate with the builders of stone walls, but came to them as a heritage from earlier times and a more primitive art.

In fact, we find in the *terramare*[1] of Italy palisade and earthwork fortifications so constructed that they may be regarded as a first stage in the development which culminates in the Tiryns galleries. The construction of the wall at Casione near Parma is thus described:[2] "Piles arranged in two parallel rows are driven in the ground with an inward slant so as to meet at the top, and this Δ-shaped gallery is then covered with earth. Along the inside of this embankment is carried a continuous series of square pens, built of beams laid one upon another, filled with earth and brushwood, and finally covered with a close packed layer of sand and pebbles. This arrangement not only strengthens the wall but provides a level platform for its defenders." Thus the space between these palisades would closely resemble the "arched" corridors of Tiryns, while the square pens (if covered over without being filled up) would correspond to the chambers.

a possible prototype of the Tiryns gallery

These facts strengthen the inferences to which we have been led by our study of the stone models and the upper-story dwellings. And they point to the region beyond Mt. Olympus as the earlier seat of this lake-dwelling contin-

[1] The term is applied to the primitive settlements in the valley of the Po. They are built on piles, not indeed in lakes, but on dry land — and are always surrounded by a trench and earthwork, the latter being sometimes strengthened by palisades.

[2] Helbig, *Die Italiker in der Poebene*, p. 11; cf. Pigorini in *Atti dell Accad. dei Lincei*, viii. 265 ff.

gent of the Mycenaean people as well as of their kinsmen of the earth-huts. And we have other evidence that the Mycenaean cities, at least the four of chief importance, were founded by a people who were not dependent on the sea and in whose life the pursuits of the sea were originally of little moment. Mycenae and Orchomenos are at a considerable remove from the coast, while Amyclae is a whole day's journey from the nearest salt water. Tiryns alone lies close to the seaboard; and, indeed, the waves of the Argolic Gulf must have washed yet nearer when its walls were reared. But, obviously, it was not the nearness of the sea that drew the founders to this low rock. For it is a harborless shore that neighbors it, while a little further down lies the secure haven of Nauplia guarded by the impregnable height of Palamedes; and it is yet to be explained why the Tirynthians, if they were a sea-faring people, did not build their city there. Again, the principal entrance to Tiryns is not on the side toward the sea, but on the east or landward side. This goes to show that even when the Cyclopean wall was built, certainly long after the first settlement, the people must have been still devoted mainly to tilling the soil and tending flocks, occupations to which the fertile plain and marshy feeding-grounds would invite them. So in historic times also the town appears to have lain to the east of the citadel, not between it and the sea.[1]

The founders not a sea-faring race

Even if it be granted that these Mycenaean cities were settled by immigrants who came by sea, it does not follow that they were originally a sea-faring folk. The primitive Dorians were hardly a maritime people, yet Grote[2] has shown

[1] Adler, *Tiryns*, vii.; but Perrot maintains the contrary: *Journ. des Savants* (1890), p. 236, and *Myc. Art*, i. 260.

[2] So Busolt, *Griech. Geschichte*, i. 63 f, and Holm, *Hist. of Greece*, i. 139.

that their conquest of the Peloponnese was in part effected by means of a fleet which launched from the Malian Gulf; and their kinsmen who settled in Melos, Thera and Crete, in all probability, sailed straight from the same northern port.[1]

The Minyae, who founded Orchomenos, Curtius regards as preëminently a seafaring race; and he seeks to account for their inland settlement by assuming that they were quick to realize the wealth to be won by draining and tilling the swamp.[2] But this is hardly tenable. Whatever our estimate of Minyan shrewdness, they must have had their experience in reclaiming swamp land yet to acquire and on this ground. It was the outcome of age-long effort in winning new fields from the waters and guarding them when won. The region invited settlement because it offered the kind of security to which they were wonted; the winning of wealth was not the motive but the fortunate result.

Fig. 158. Mycenaean Boat

Again, if the Mycenaeans had been from the outset a maritime race we should expect to find the ship figuring freely in their art-representations. But this is far from being the case. We have at last one apparent instance of the kind on a terra-cotta fragment found in the Acropolis at Mycenae in 1892 and here reproduced (Fig. 158). On

[1] See Willamowitz-Möllendorf on Euripides' *Herakles*, i. 267.

[2] *Sitzungsbericht Berl. Akad. Wiss.*, 1892, p. 1188.

this we seem to have a boat, with oars and rudder, and curved fore and aft like the Homeric *νῆες ἀμφιέλισσαι*. Below appear what we may take to be dolphins. But this unique example can hardly establish the maritime character of the Mycenaeans.

nor fish-eaters

Along with this unfamiliarity with ships, we have to remark also their abstinence from fish. In the remains of Tiryns and Mycenae we have found neither a fish-hook nor a fish-bone, though we do find oysters and other shell-fish such as no doubt could be had in abundance along the adjacent shores. In the primitive remains of the Italian *terramare* there is the same absence of anything that would suggest fishing or fish-eating;[1] and, indeed, linguistic evidence confirms these observations. Greek and Latin have no common term for fish;[2] and we may fairly conclude that the Graeco-Italic stock before the separation were neither fishermen or fish-eaters. That they were slow to acquire a taste for fish even after the separation is attested not only by the negative evidence of their remains in the Argolid and on the Po but by the curious reticence of Homer. His heroes never go fishing but once[3] and then only in the last pinch of famine — "when the bread was all spent from out the ship and hunger gnawed at their belly."

Hellenic mint-marks

Now that we find in Greece, five or six centuries earlier than the poems, a people in all probability hailing from the same region whence came the ancestors of the Homeric Greeks, with the same ignorance of or contempt for a fish diet, and building their huts on piles like the primitive Italians whose earthworks further appear to have set

[1] Helbig, *Die Italiker in der Poebene*, p. 75.

[2] Even their common name for the eel was formed in the separate languages from a common name for snake and simply designated the eel as a little snake. — Schrader-Jevons' *Prehistoric Antiquities*, p. 1174.

[3] *Odyssey*, xii. 329 ff.

the copy for the Tirynthian galleries, — can we doubt that this people sprung from the same root with the historic Greeks and their kinsmen of Italy? The conclusion appears so natural and so logical, that it must require very serious and solid objections to shake it. But, instead of that, our study of Mycenaean manners and institutions — both civil and religious — affords strong confirmation. In the matter of dress we find the historical Greeks the heirs of the Mycenaeans, and the armor of the Homeric heroes — when we get behind the epic glamor of it — differs little from what we know in the Mycenaean monuments.

in dress and armor

While our knowledge of Mycenaean religion is vague at the best, and we must recognize in the dove-idols and dove-temples the insignia of an imported Aphrodite-cult, we have beyond a reasonable doubt also to recognize a genuine Hellenic divinity with her historical attributes clearly foreshadowed in Artemis.[1] Again, while the Homeric Greeks themselves are not presented to us as worshipers of the dead after the custom avouched by the altar-pits of Mycenae and Tiryns, we do find in the poems an echo at least of this cult, and among the later Hellenes it resumes the power of a living belief. So, though Homer seems to know cremation only, and this has been taken for full proof that the Mycenaeans were not Greeks, the traces of embalming in the poems clearly point to an earlier custom of simple burial as we find it uniformly attested by the Mycenaean tombs. And, here, again, historical Greece reverts to the earlier way. In Greece proper, at least in Attica, the dead were not burned, — not even in the age of the Dipylon vases, — and yet the Athenians of that day were Greeks.[2] So, among the

Religion

Burial of the dead

[1] Cf. Studniczka, *l. c.*

[2] Cf. Brückner, *Wochenschrift für klass. Philologie*, 1892, p. 271.

earlier Italians, burial was the only mode of dealing with the dead, and the usage was so rooted in their habits that even after cremation was introduced some member of the body (*e. g.* a finger) was always cut off and buried intact.[1] We need not repeat what we have elsewhere said of the funeral banquet, the immolation of victims, the burning of raiment — all bearing on the same conclusion and cumulating the evidence that the Greeks of Homer, and so of the historic age, are the lineal heirs of Mycenaean culture.

Government

If the proof of descent on these lines is strong, it is strengthened yet more by all we can make out regarding the political and social organization. That monarchy was the Mycenaean form of government is sufficiently attested by the strong castles, each taken up in large part by a single princely mansion. But "the rule of one man" is too universal in early times to be a criterion of race. Far more significant is the evidence we have for a clan-system such as we afterwards find in full bloom among the Hellenes.

Clan-system

The clan, as we know it in historic times, and especially in Attica, was a factor of prime importance in civil, social, and religious life. It was composed of families which claimed to be, and for the most part actually were, descended from a common ancestor. These originally lived together in clan-villages — of which we have clear reminiscences in the clan-names of certain Attic demes, as Boutadai, Perithoidai, Skambonidai. Not only did the clan form a village by itself, but it held and cultivated its land in common. It built the clan-village on the clan-estate; and as the clansmen dwelt together in life, so in death they were not divided. Each clan had its burial-place in its own little territory, and there at the tomb it

[1] Steuding, in Roscher's *Lex. Myth.*, p. 235; art. "Inferi."

kept up the worship of its dead, and especially of its hero-founder.

That the Mycenaeans lived under a like clan-system, the excavation of the tombs of the lower town has shown conclusively. The town was composed of villages more or less removed from one another, each the seat of a clan. We have no means of determining whether the land was held and tilled in common, but we do know that by each village lay the common clan-cemetery — a group of eight, ten, or more tombs, obviously answering to the number of families or branches of the clan. In the construction of the tombs, and in the offerings contained, we note at once differences between different cemeteries and uniformity in the tombs of the same group. The richer cemeteries lie nearer the acropolis, as the stronger clans would naturally dwell nearer the king. Thus, for its population, Mycenae covered a large area, but its limits were not sharply defined, and the transition from the citadel centre to the open country was not abrupt. The villages were linked together by graveyards, gardens and fields, highways and squares; thus the open settlement was indeed a *πόλις εὐρυάγυια* — a town of broad ways.

Somewhat such must have been the aspect in primitive days of Sparta and Athens, not to mention many other famous cities. Indeed, even in historic times, as we know from the ruins, Sparta was still made up of detached villages spread over a large territory for so small a population. So primitive Athens was composed of the central settlement on the acropolis, with the villages encircling it from Pnyx to Lycabettus and back again. When the city was subsequently walled in, some of these villages were included in the circuit, others were left outside, while still others (as the Ceramicus) were cut in two by the wall. The same

thing happened at Mycenae; the town wall was built simply because the fortress was an insufficient shelter for the populace as times grew threatening; but it could not, and did not, take in all the villages.

Such briefly is the objective evidence — the palpable facts — pointing to a race-connection between the Mycenaean and the Greeks of history. We have, finally, to consider the testimony of the Homeric poems. Homer avowedly sings of heroes and peoples who had flourished in Greece long before his own day. Now it may be denied that these represent the civilization known to us as Mycenaean; but it is certainly a marvelous coincidence (as Schuchhardt observes) that "excavations invariably confirm the former power and splendor of every city which is mentioned by Homer as conspicuous for its wealth or sovereignty."

Homeric testimony

Of all the cities of Hellas, it is the now established centres of Mycenaean culture which the poet knows best and characterizes with the surest hand. Mycenae "rich in gold"[1] is Agamemnon's seat, and Agamemnon is lord of all Argos and many isles, and leader of the host at Troy. In Laconia, in the immediate neighborhood of the tomb which has given us the famous Vaphio cups, is the royal seat of Menelaus, which is likened to the court of Olympian Zeus.[2] Boeotian Orchomenos, whose wealth still speaks for itself in the Treasury of Minyas, is taken by the poet as a twin type of affluence with Egyptian Thebes, "where the treasure-houses are stored fullest."[3] Assuredly, no one can regard all this and many another true touch as mere coincidence. The poet knows whereof he affirms. He has exact knowledge of the greatness and bloom of certain peoples

[1] *Iliad*, vii. 180, etc.

[2] *Odyssey*, iv. 74.

[3] *Iliad*, ix. 381.

and cities at an epoch long anterior to his own, with which the poems have to do. And there is not one hint in either poem that these races and heroes were not of the poet's own kin.

It might be assumed that there had once ruled in those cities an alien people, and that the monuments of Mycenaean culture were their legacy to us, but that the Achaeans who came after them have entered into the inheritance of their fame. Such usurpations there have been in history; but the hypothesis is out of the question here. At Mycenae, where exploration has been unusually thorough, the genuine Mycenaean age is seen to have come to a sharp and sudden end — a catastrophe so overwhelming that we cannot conceive of any lingering bloom. Had the place passed to a people worthy to succeed to the glory of the race who reared its mighty walls and vaulted tombs, then we should look for remains of a different but not a contemptible civilization. But, in fact, we find built directly on the ruins of the Mycenaean palace mean and shabby huts which tell us how the once golden city was succeeded by a paltry village. Centuries were to pass before the Doric temple rose on the accumulated ruins of palace and hovels, and generations more before the brave little remnant returned with the laurels of Plataea and enough of the spoil (we may conjecture) to put the walls of the Atreidae in repair.

Achaeans not heirs of an alien culture

If the structures peculiar to the Mycenaean age are the work of foreigners, what have we left for Agamemnon and his Achaeans? Simply the hovels. Of the Dipylon pottery, with which it is proposed to endow them, there is none worth mentioning at Mycenae, very little at Tiryns, hardly a trace at Amyclae or Orchomenos. In the Mycenaean acropolis, particularly, very few fragments of this pottery

have been found, and that mainly in the huts already mentioned. Can these be the sole traces of the power and pride of the Atreidae?

To whom among Greeks is Mycenaean culture to be ascribed

For us, at least, the larger problem of nationality is solved; but there is a further question. Can we determine the race or races among the Greeks known to history to whom the achievement of Mycenaean civilization is to be ascribed? In this inquiry we may set aside the Dorians, although many scholars (especially among the Germans), still claim for them the marvelous remains of the Argolid.[1] The Homeric poems,

Dorians ruled out

they say, describe a state of things subsequent to the Dorian migration into the Peloponnese and consequent upon the revolution thereby effected. As the Dorians themselves hold sway at Mycenae and Sparta, they must be the subjects of the poet's song, — the stately fabric of Mycenaean culture must be the work of their hands.

On the other hand, Beloch, while accepting the Dorian theory of this civilization, dismisses the traditional Dorian migration as a myth, and maintains that Dorian settlement in the Peloponnese was as immemorial as the Arcadian. Just as the original advent of the Arcadians in the district which bears their name had faded out of memory and left no trace of a tradition, so the actual migration of the Dorians belonged to an immemorial past.[2]

The first of these views, which attributes the Mycenaean culture to the Dorians of the traditional migration, cannot stand the test of chronology. For tradition refers that migration to the end of the twelfth century B. C., whereas the Mycenaean people were established in the Argolid before the sixteenth, probably even before the twentieth cen-

[1] So, Niese, *Entwickelung der Hom. Poesie*, p. 213; and others not a few.

[2] *Rheinisches Museum*, 1890, p. 555 ff.

tury. While Beloch's hypothesis is not beset with this chronological difficulty, it is otherwise quite untenable. For, as the excavations at Tiryns and Mycenae abundantly prove, the Mycenaean civilization perished in a great catastrophe. The palaces of both were destroyed by fire after being so thoroughly pillaged that scarcely a single bit of metal was left in the ruins. Further, they were never rebuilt; and the sumptuous halls of Mycenae were succeeded by the shabby hovels of which we have spoken. The larger domes at Mycenae, whose sites were known, were likewise plundered — in all probability by the same hands that fired the palace. This is evidenced by the pottery found in the hovels and before the doorways of two of the beehive tombs. A similar catastrophe appears to have cut short the career of this civilization in the other centres where it had flourished.

How are we to account for this sudden and final overthrow otherwise than by assuming a great historic crisis, which left these mighty cities with their magnificent palaces only heaps of smoking ruins? And what other crisis can this have been than the irruption of the Dorians? And their descent into the Peloponnese is traditionally dated at the very time which other considerations have led us to fix as the lower limit of the Mycenaean age. Had that migration never been recorded by the ancients nor attested by the state of the Peloponnese in historic times, we should still be led to infer it from the facts now put in evidence by the archaeologist's spade.

Setting aside the Dorian claim as preposterous, we have nothing to do but follow the epic tradition. The Homeric poems consistently assume that prior to any Dorian occupation Argolis was inhabited by other peoples, and notably by Achaeans whose position is

Homer's ethnic names

so commanding that the whole body of Greeks before Troy usually go by their name. Their capital is Mycenae, and their monarch Agamemnon, King of Men; although we find them also in Laconia under the rule of Menelaus. But the poet has other names, hardly less famous, applied now to the people of Argolis and now to the Greeks at large. One of these names (Ἀργεῖοι) is purely geographical, whether it be restricted to the narrow Argolid district or extended to the wider Argos, and has no special ethnological significance. But the other (Δαναοί) belonged to a people distinct from and, according to uniform tradition, more ancient than the Achaeans. We find then two races in Argolis before the Dorian migration, each famous in song and story, and each so powerful that its name may stand for all the inhabitants of Greece. The Achaeans occupy Mycenae, that is to say, the northern mountain region of the district, while legend represents the Danaans as inseparably connected with Argos and the seaboard, and ascribes to them certain works of irrigation.[1]

Achaeans

Argives

Danaans

Whatever interpretation be put upon the myth, it seems clear that Argos could not feed its great cities without artificial irrigation, and this it owed to Danaos and his fifty daughters, "who were condemned perpetually to pour water in a tub full of holes," — that is to say, into irrigating ditches which the thirsty soil kept draining dry.[2]

[1] What these were we do not know; nor were the ancients apparently much better informed. According to a Hesiodic fragment "the Danaans made Argos, once waterless, abound in water" (Ἄργος ἄνυδρον ἐὸν Δαναοὶ θέσαν ἔννδρον); but Strabo (viii. 6, 7–8) treats this as a poetic fiction along with Homer's "thirsty Argos" (πολυδίψιον Ἄργος), for which the geographer proposes various emendations. Argos, he tells us, was watered by rivers, lakes and marshes, while the city was provided with plenty of wells. It was these wells which later men, with the facts before their eyes, ascribed to Danaan initiative.

[2] See Tozer, *Geography of Greece*, 317 f.

Now our study of the Mycenaean remains has already constrained us to distinguish in the Argolid two strata of Mycenaean peoples, one of them originally dwelling on dry land in sunken huts, the other occupying pile settlements in lakes and swamps. And since tradition squares so remarkably with the facts in evidence, may we not venture to identify the marsh-folk with the Danaans and the landsmen with the Achaeans?

But Achaeans and Danaans were not alone in shaping and sharing Mycenaean culture; they had their congeners in other regions. Foremost among these were the Minyan founders of Orchomenos. As lake-dwellers and hydraulic engineers they are assimilated to the Danaans, whose near kinsmen they may have been, as the primitive Islanders, whose abodes we have found copied in the stone vases, must have been related to them both. Tradition has, in fact, preserved an account of the colonization of Thera by a people coming from Boeotia,[1] although it is uncertain whether it refers to the original occupation or to a settlement subsequent to the great catastrophe. Minyae

From the Danao-Minyan stock, it would appear that the Achaeans parted company at an early date and continuing for a time in a different — most probably a mountainous — country, there took on ways of living proper to such environment. Later than the Danaans, according to the consistent testimony of tradition, they came down into the Peloponnese and by their superior vigor and prowess prevailed over the older stock.

To these two branches of the race we may refer the two classes of tombs. The beehive and chamber tombs, as we have seen, have their prototype in the sunken huts: they belong to the Achaeans coming down from the colder

[1] Studniczka, *Kyrene*, 45 ff.

North. The shaft-graves are proper to the Danaan marshmen. At Tiryns we find a shaft-grave, but no beehive or chamber tomb. At Orchomenos the Treasury of Minyas stands alone in its kind against at least eight tholoi and sixty chamber-tombs at Mycenae. Hence, wherever this type of tomb abounds we may infer that an Achaean stock had its seat, as at Pronoia, in Attica, Thessaly, and Crete. Against this it may be urged that precisely at the Achaean capital, and within its acropolis at that, we find the famous group of shaft-graves with their precious offerings, as well as humbler graves of the same type outside the circle. But this, in fact, confirms our view when we remember it was the Danaid Perseus who founded Mycenae and that his posterity bore rule there until the sceptre passed to Achaean hands in the persons of the Pelopidae.[1] We have noted the close correspondence of the original fortress at Mycenae with that of Tiryns, and its subsequent enlargement. Coincident with this extension of the citadel, the new type of tomb makes its appearance in the great domes — some of them certainly royal sepulchres — although the grave-circle of the acropolis is but half occupied. That circle, however, ceases thenceforth to be used as a place of burial, while the humbler graves adjacent to it are abandoned and built over with dwellings. With the new type of tomb we note changes of burial customs, not to be accounted for on chronological grounds: in the beehive tombs the dead are never embalmed nor do they wear masks nor are they laid on pebble beds —

The two races distinguished by their tombs

Shaft-graves belong to Danaan founders, tholoi to Achaean conquerors

[1] This is not gainsaying the Phrygian extraction of the Pelopid line. "The true Phrygians were closely akin to the Greeks, quite as closely akin as the later Macedonians. We may fairly class the Pelopidae as Achaean." (Percy Gardner, *New Chapters of Greek History*, p. 84.)

a practice which may have owed its origin to the wet ground about Tiryns.[1]

There is but one theory on which these facts can be fully explained. It is that of a change in the ruling race and dynasty,[2] and it clears up the whole history of Mycenae and the Argive Plain. The first Greek settlers occupied the marshy seaboard, where they established themselves at Tiryns and other points;[3] later on, when they had learned to rear impregnable walls, many of them migrated to the mountains which dominated the plain and thus were founded the strongholds of Larissa, Mideia and Mycenae.

A key to Argive history

But while the Danaans were thus making their slow march to the North the Achaeans were advancing southward from Corinth — a base of great importance to them then and always as we may infer from the network of Cyclopean highways between it and their new centre.[4] At Mycenae, already a strong Perseid outpost, the two columns meet — when we cannot say. But about 1500 B. C., or a little later, the Achaeans had made themselves masters of the place and imposed upon it their own kings.

We have no tradition of any struggle in connection with this dynastic revolution, and it appears probable that the Achaeans did not expel the older stock. On the contrary, they scrupulously respected the tombs of the Danaid dynasty — it may be, because they felt the claim of kindred

[1] Rohde (*Psyche*, p. 32) calls attention to an analogous custom observed in the graves of Northern Europe.

[2] The assumption had already been made by Adler and is accepted by Perrot: *Journal des Savants*, 1892, p. 449; *Myc. Art*, ii. 26.

[3] The scholia on Euripides' *Orestes*, v. 932, preserves a tradition that after Deucalion's deluge Inachos was the first to gather the Argives from the mountains and settle them in the present Argos, which he found wholly covered with water.

[4] See page 15 f.

blood. In manners and culture there could have been but little difference between them, for the Achaeans had already entered the strong current of Mycenaean civilization.

Indeed, we discern a reciprocal influence of the two peoples. Within certain of the Achaean tombs (as we may now term the beehives and rock-chambers) we find separate shaft-graves, obviously recalling the Danaid mode of burial. On the other hand, it would appear that the typical Achaean tomb was adopted by the ruling classes among other Mycenaean peoples. Otherwise we cannot explain the existence of isolated tombs of this kind as at Amyclae (Vaphio), Orchomenos and Menidi — obviously the sepulchres of regal or opulent families; while the common people of these places — of non-Achaean stock — buried their dead in the ordinary oblong pits.

Achaean ascendency is so marked that the Achaean name prevails even where that stock forms but an inconsiderable element of the population. Notably this is true of Laconia, where the rare occurrence of the beehive tomb goes to show that the pre-Dorian inhabitants were mostly descended from the older stock, which we have encountered at Tiryns and at Orchomenos.[1]

[1] That Minyans were established in Laconia and assisted in the Laconian colonization of Thera we are told by Herodotus (iv. 145 f.). Cf. Curtius, *Griech. Gesch.*, i. 163.

PLATE XXI. GREAT NORTH EAST TOWER AT TROY
From a photograph by Dr. Dorpfeld

CHAPTER XV

THE MYCENAEAN WORLD AND HOMER

THUS far we have passed in review the more important monuments of prehistoric Greece, from the mighty walls of Tiryns to the exquisite Vaphio vases; and from all we have sought to sketch, however rudely, the main features of primitive Greek life and culture. At best the mirror is not flawless enough "to show the very age and body of the time his form and pressure," but for all that the image is surprisingly full and authentic. We have before our eyes the impregnable strongholds which sheltered these ancient people, as at Tiryns and Mycenae, or which long withstood their siege, as at Troy. We have the palaces of their kings, in ruins, to be sure, but still with their foundations as well as their hearths and altars intact, and enough of their decorations to enable us to build them up again and adorn them anew with almost absolute precision, while other sources have yielded us the means of refurnishing them with countless articles of use and luxury. We have recovered their actual swords and sceptres; the bracelets they wore and the signets they used; the goblets and tankards that went round the festal company as they quaffed the honey-hearted wine or made libation to their gods.

Résumé of more or less positive results thus far

And, where actual objects fail, their artists come in to fill the gap: before our eyes they bring princes in their chariots chasing the deer or proceeding to war; lion and bull hunts; scenes of siege and battle, of worship and sacrifice,

of so many moments in their existence, indeed, that an orderly series of them would go far to make a compendious chronicle of the time. Thus we follow the Mycenaean through life, nor at death does the light go out. Rather it is the tomb in which we find the luminous centre of the age. The habitations of the living with their belongings have been largely swept away by the shock of war or the wasting hand of time; but kindly earth has sheltered the dwellings of the dead. The phrase is used here and elsewhere in no figurative sense, but because it exactly expresses the ancient view. Death was but removal from the house aboveground to the house underground, both originally constructed on the same plan, although innovation in the one case and religious conservatism in the other issued in parting them widely. And it was not in nakedness and solitary that man removed from the old house to the new; he went in his best and bravest array, and the new house was furnished, not unlike the old, with all that could maintain his dignity and minister to his comfort. From time to time he was joined there by his kin, each bringing his goods with him, until the whole household was reunited in the lower mansion, which thus became a storehouse of accumulated treasure. From the tombs, therefore, has broken forth new light not only upon primitive religion, but upon well-nigh the whole field of primitive life in Greece; and of this light we have tried to make the most in our sketch of Mycenaean culture.

So far as they rest upon these tangible monuments and upon sound interpretation, our results may claim a positive character; but the case is different when we undertake to assign a date to the monuments themselves and to give a name to the people who produced them. There, of necessity, we go beyond these positive criteria and have recourse

to combinations more or less hazardous. The conclusions thus reached cannot be put forward as final; but where so many lines of evidence converge and so many competent investigators arrive by various paths at a common goal, we may claim to have reasonably solid ground to stand on. If this be granted, the culture we have attempted to outline on the authority of its actual monuments is that of the ancestors of the Greeks in the second millennium B. C.

Farther back than this we can hardly go. To retrace the course of the Achaean to his pro-ethnic cradle and assess the stock of culture wherewith he set out upon his wanderings and determine what he picked up on the way, — that is a task for other hands. The task that remains to us is to sum up as best we can the conditions in which we find him on Greek soil and then to consider briefly his place in the general history of culture and his relation to the great poems on which our interest in him primarily depends.

Primitive culture in Greece

On his advent in Greece he had already passed that "great turning-point in human culture when man makes his first acquaintance with the metals," and so finds himself armed for the subjugation of nature and furnished for the creation of art. But his knowledge of the metals was still extremely limited. The farther back we trace him on the evidence of his own monuments — as at Thera and in the lowest strata of Tiryns — the oftener we find him still employing stone and not metal for the common uses of life in domestic utensils, tools, and arms;[1] and at Mycenae, as well as Thera, the carpenter never uses nails.

Dawn of the Bronze Age

[1] So it was at Troy. "The excavations at Hissarlik show us how far into the age of metals the Stone Age survives with its hammers, axes, hatchets, saws, and pounders of stone, and its needles and awls of bone and ivory." (Schrader, *Prehistoric Antiquities*, p. 288.)

Thus, while metals are not entirely wanting in these earlier strata, we seem to be brought into the presence of a civilization but little removed from the Stone Age; and it is a fair inference that when the first contingent of the Mycenaean stock came down into Greece — say, in the third millennium B. C. — they had very little knowledge and made very little use of metals. The first metals known to them were copper and gold, while silver emerges later, as it continues to be much the rarer of the two precious metals. From the not infrequent occurrence of silver objects in the Island graves where gold is comparatively rare, we may conjecture that it was through the Islanders the white metal came to the knowledge of the Continental Greeks, who were already more or less familiar with bronze and gold. For all three metals they looked to the East for their supply.

From the East, too, came other gifts no less important in the advancement of culture and the amelioration of life.

Domestication of plants and animals

Chief among these were domesticated plants and animals, whose introduction undoubtedly began in the earlier Mycenaean epoch. This seems to be true of the tree which has ever since afforded the staple food of the Greeks, and of the animal whose domestication (as Schrader observes) gives an entirely new and special character to a primitive people. We refer, of course, to the olive and the horse. While the olive is native to Greece, it was domesticated earlier in Syria, and the Mycenaeans appear to have learned its cultivation from the Semites. So the domestication of the horse may be regarded as a gift from the same quarter. The noble animal was doubtless known to the Mycenaeans before the Phoenicians began to frequent their shores, but it is quite improbable that he had been subdued to the service of man. True, as early as the epoch of the sculptured

The olive and the horse

stelae and the offerings of the Royal Graves, we find the horse already harnessed to the chariot. But, as Hehn has shown,[1] it was from Asiatics that this use for the horse as well as the fashion of the chariot itself was borrowed. The chariot of the Mycenaeans often resembles, even in details, that on Mesopotamian monuments. Like the Homeric heroes, the Mycenaeans never appear on horseback, but mount the chariot, whether for the journey, the chase, or the march, though again, like Homer's men, they dismount when the field is reached and fight on foot.

The ox and mule

For draught and burden the horse was little used, that drudgery being reserved for the ox and possibly the mule. The domestication of cattle among the Mycenaeans rests on no uncertain evidence: we have beef bones from their tables and altars; kine not only in clay but in precious metals substituted for sacrificial victims; and the very act of capture and subjugation is vividly brought before our eyes, as on the Vaphio vases. As regards the mule, the case is far less clear. Asses' teeth have been recognized with some hesitation in Mycenaean remains (p. 69), and we have the evidence — whatever it be worth — of the ass-headed monsters in fresco (Fig. 156). But while the mule is the beast of draught and burden *par excellence* in Homer, the ass is mentioned only once;[2] and, therefore, Schrader holds that it cannot possibly have belonged to the domesticated animals of the Homeric age, and assumes that when the Hellenes took to breeding mules they imported brood-asses which were far too costly for other uses. The archaeological indications noted above may warrant the conjecture that this was done as early as the Mycenaean age; but to justify any certain conclusion further evidence must be forthcoming.

[1] *Wanderings of Plants and Animals*, 40–52.

[2] *Iliad*, xi. 558.

Without going beyond the archaeological evidence, we have found the Mycenaeans already in possession of the goat, sheep, swine, and dog, all in a domesticated state, but we get no trace of poultry. All the Mycenaean birds are still wild, unless we except Aphrodite's doves, which belong to sacred rather than to secular economy. This is only what we should expect in view of the fact that even Homer knows but one domesticated fowl, the goose; and that appears only in the Odyssey, and then rather as a pet than otherwise, if we may judge from Penelope's fondness for her little flock.[1]

Other animals

Absence of poultry

Of game there must have been great plenty. We see hunters chasing, for example, the deer, the wild bull, the lion, — the first, doubtless, for sport, the second for capture and domestication, the third in self-defense.[2] That the lion was among the foes to be reckoned with by the early Greeks in their struggle to subdue the land to the uses of civilization would seem to be clear enough from their own monuments. There is no animal that their art represents more masterfully, and to say their lions are the creations of Oriental art or copied from it is absurd. The great Lion-Relief of Mycenae on native limestone was no more imported than were the palace-frescoes; the same can now be said of the sword-blade with its lion hunt, whose home-made character is attested by dress, armor, technique, and all. Consistently with this archaeological evidence, the palaeontologist tells us that the lion was once distributed over nearly all Europe,[3] and

Hunting

The lion in Greece

[1] *Odyssey*, xix. 536 ff.

[2] It is easy, Schräder thinks, to assign too great importance to hunting in primitive life after men have once begun to till the soil. "The spoils of the chase were not offered to the gods and were only eaten in extremity. Primitive man fights wild beasts because he must. Sport is known only in higher stages of culture." (*Prehistoric Antiquities*, p. 251.)

[3] Lubbock, *Prehistoric Times*, 294.

we have the testimony of two ancient writers[1] that the lion lingered in Thrace as late as the fifth and fourth centuries.

Of agriculture among the Mycenaeans we can expect to learn but little from the monuments. The wooden implements with which they long tilled the ground have of course perished; and the artist who wrought mainly for princes has given us no such pictures of ploughing, harvest, and vintage as charm us in the Homeric Shield of Achilles. Nor have we any Mycenaean dairy to match that of Polyphemus, though our Eteocretan milkman (Fig. 143) affords us a glimpse of the business. But, while we cannot handle their tools or witness their tillage, we have the actual produce of their fields. The primeval houses of Thera were still stored with barley when they were disengaged from the lava beds which had covered them for three or four millennia; and at Troy in 1890 Dr. Schliemann found in the Mycenaean stratum "several sorts of grain" stored in great jars, as well as "hand-mills of trachyte" to grind it — to say nothing of a single jar containing 440 pounds of pease! How diversified was their husbandry we may one day know better, when these finds and many more have been properly analyzed. We can at least affirm now that they had learned to win from field and flock a provision of food and raiment fairly adequate to their needs. In the Argive Plain we certainly have better conditions for primitive husbandry than on volcanic Thera; and, when Capodistria planted his agricultural school under the walls of Tiryns, he chose a site that must have been pastured or ploughed more than thirty centuries before.

Agriculture

In the foregoing chapter we have contended that the Mycenaeans were not by origin a seafaring people; and no doubt the great body of them must have remained sim-

[1] Herodotus, vii. 125; Aristotle, *History of Animals*, 28.

ple landsmen living from their flocks and fields. But once established along the deeply indented coasts of Greece, on the shores of a sea so studded with islands that one could traverse it without ever losing sight of land, many of them naturally took to the new element. Greek history affords more than one parallel: as in olden times the Dorians of Aegina, so in our day the Albanians of Hydra and Spetsia lead all the Greeks in bold and enterprising seamanship; yet Dorians and Albanians alike were originally mountaineers, and most of their kinsmen always remained strangers to the sea.

Navigation and commerce

Commerce there must have been from the beginning, as tribe bartered with its neighbor tribe, until even the products of interior Asia would find their slow way overland into far-off Europe. But it was on the Aegean they first tried the watery ways. The Islanders, intermediaries in commerce as in art between Greece and the Orient, doubtless had much to do with setting their neighbors of the Mainland on these new paths of civilization.[1]

It goes without saying that cities with near and safe harbors, especially if they were possessed of a considerable productive territory, would be the first to enter into these wider relations and throw off their original barbarism. Having the more to give in exchange for the foreign goods, which had so much to do with progress in the arts and the amelioration of life, they would forge ahead the more rapidly. With the advantage of position commercially, the Islands were too restricted in productive area to keep pace in the long run with Mainland cities like Tiryns and Orcho-

[1] Cf. Arthur J. Evans on "The Eastern Question in Anthropology," before the British Association, as reported in the *Times* of Sept. 18, 1896: "Maritime enterprise did not begin on the harborless coasts of Palestine. The island-world of the Aegean was the natural home of primitive navigation."

menos, whose prosperity was built up on the stable basis of agriculture. Yet husbandry alone will not account for the vast accumulation of wealth in the hands of the Danaid kings of Mycenae which their stupendous public works as well as the treasure of their tombs compel us to assume. To obtain such store of gold, silver, bronze, ivory, and the like products of other lands required exchangeable values which their soil alone could not produce. The most marketable commodity Greece then had to offer must have been slaves; but her immediate neighbors hardly afforded adequate hunting-grounds for this human game. Commerce, then, or piracy must have been reckoned among her resources; but it is very easy to overestimate the rôle of the latter. Homer's princes on occasion are not above a little buccaneering or trafficking, but these are by no means the common pursuits. It is only the restless and daring spirits who take to them — rovers, as Odysseus in one of his made-up autobiographies describes them, who cannot bear to bide at home in peace, tending their flocks and tilling their fields.[1]

Colonial enterprise and foreign relations

The first colonial plantations on Melos, Thera, and other islands, presuppose no great experience in navigation; in fact, these may have been among their earliest ventures, and the more their colonies expanded the more rapidly would maritime enterprise and skill increase. In making Danaos the first to build a ship and sail over sea, tradition seems to point to the Danaans as the earliest seafaring people in Greece; and many have gone so far as to recognize the name of that people in an inscription at Karnak which mentions "the isles of the Tenau" among the vassals of King Thothmes III. (*circa* 1550 B. C.). We lay no stress on this identification, which is at best

[1] *Odyssey*, xiv. 222.

doubtful; but other evidence, as we have seen, seems to warrant the conclusion that intercommunication between the Aegean world and Egypt dates even farther back.

If the Danaans were the pioneers in Greek maritime commerce, the Achaeans did not lag behind; indeed they soon went beyond them in daring and enterprise. They planted colonies in more distant parts, as in Rhodes and probably other islands off the Asiatic coast. When the entire Aegean was thus occupied later on in the Mycenaean age, then — if not before — the Greeks certainly ventured on expeditions to the older and richer countries of the East. In Egypt we have tangible evidence not only for such incursions but for actual settlements.[1] Thus we may conceive the men of Greece in training for their larger rôle in the history of culture and particularly for that victorious duel with the East which Homer has eternalized.

The rôle of the Mycenaeans in the history of culture

On the first point it must now be clear that, far from being a mere exotic maintaining a feeble growth quite aside from the highway of the world's progress, Mycenaean culture was one of the strong central forces in the general movement of the age. Once in possession of the metals, the Greeks were armed for their great career in art, a career to which they unquestionably brought native endowments of a high order. That they would find their artistic feeling and faculty profoundly influenced by the land in which they came to dwell we cannot doubt. And to this inspiration of Nature in her choicest forms and tints and moods there would be added a new impulse from new neighbors. Contact with the older civilizations of Asia Minor, Syria, and Egypt could not but prove quickening. The course of trade would bring them

[1] See p. 320; and cf. Odysseus' story of his Egyptian raid (*Odyssey*, xiv. 247 ff.).

in abundance the copper of Cyprus, the gold of Asia Minor, the ivory of the Tropics, even the amber of the Baltic — often, no doubt, in the form of finished works of art. Thus they would be supplied at once with raw material, model, and process; but, whatever they thus received, it is safe to say that they stamped their own impress on the works they wrought. It is the impress of a race but recently emerged from barbarism — a race independent and vigorous, still cherishing the passionate free spirit of their northern kinsmen which makes them active and energetic, sometimes even to savagery; with a creative genius still unfettered by types and conventions; with minds that have not yet lost the profound interest in and keen observation of Nature. These are Achaean traits, and they are stamped unmistakably on the products of Mycenaean art. It is not so much technical mastery we admire in the artist as his vigor, his elasticity, his dash, and the untrammeled spirit which never stoops to servile imitation, but looks Nature in the face and then registers in forms of art the naïve impression of it. To name these qualities is enough to demonstrate the absurdity of the wholesale reference of Mycenaean art to an Oriental — above all, to a Semitic — source.[1] If Egyptian monuments picture tribute-bearers

[1] "Let us then fully acknowledge the indebtedness of early Aegean culture to the older civilizations of the East. But this indebtedness must not be allowed to obscure the fact that what was borrowed was also assimilated. It is the invasion of a conquering and superior culture. It has already outstripped its instructors. What the Mycenaeans took they made their own. They borrowed from the designs of Babylonian cylinders, but they adapted them to gems and seals of their own. The influence of Oriental religious types is traceable on their signet rings, but the liveliness of treatment and the dramatic action introduced into the groups separate them *toto coelo* from the conventional schematism of Babylonian cult-scenes." — Arthur J. Evans on "The Eastern Question in Anthropology," before the British Association. London *Times*, Sept. 18, 1896.

from the East bringing "Mycenaean" vessels to the Pharaohs, it simply shows that Mycenaean culture was reacting on the older civilizations toward the sunrise. Starting out from the shores and islands of Greece, the creators of that culture were presently able to compete with the more precocious East, not only in arms, but in arts and industries as well. Their handiwork soon came to rival that of Sidon and Egypt, and the monuments upon the Nile prove nothing more than that the products of Mycenaean art not only found their way to distant marts but were counted fitting gifts even for an Oriental despot. Its lustrous painted vases, notably, were in demand on three continents: we find them at Troy, in Caria, Cyprus, Egypt,[1] and even in Sicily.

This competition with the East was the logical outcome of Mycenaean progress, as that progress itself was in the order of nature. Only on the assumption that the primitive Greeks were destitute of the germs of self-development can we deny to them the possibility of attaining in the course of ages to the high level of the culture known to us as Mycenaean. Nor were they the only European people of their time in this forward movement. Their kinsmen in the West had already entered the Bronze Age and some of them were producing metal-work not a little like that of Mycenae. And yet they were assuredly no better endowed, while they were much less favorably situated: they dwelt far from the sea and yet farther from the ancient centres of culture, which Mycenae had (comparatively speaking) at her doors. In fact, it was through Hellas — in part, at least — that farther Europe communicated with the East, and it was at Mycenaean hands that she received from the East many of

[1] For example, the splendid Marseilles vase recently published by Furtwängler (*Arch. Anzeiger*, 1893, p. 9).

the most essential elements of her civilization. Of this Mycenaean communication with the West we have clear evidence: among other things Mycenaean fibulae are found in the Italian *terramare*, and in Hungary, Bosnia, and Switzerland.[1] Again, the Mycenaean sword (in the form represented in Fig. 87) is held to be the archetype of nearly all the swords of the bronze age throughout Europe.[2] Fibulae appear at Mycenae only in the more recent period; and, whether invented there (as they most probably were) or elsewhere in Europe, they are characteristic of Greek and indeed of European civilization as distinguished from that of the East, where they were unknown. Thus, as we have seen the Islands mediating between the two shores of the Aegean, the larger Mycenaean world was the clearing-house of culture (if we may use the phrase) for all the Mediterranean lands, the natural and happy mediator between primitive Europe and the older civilizations of the East.[3]

The post was one of honor, but of peril as well. The Mycenaean world was of the West, not so much geographically as in its whole spiritual attitude. It was forward

[1] Undset, *Zeitsch. für Ethnologie*, 1889, p. 205 f.; Orsi, *Bull. di Palaeont. Ital.*, 1891, p. 174.

[2] Undset, *l. c.*

[3] Cf. Arthur J. Evans, *l. c.* "It is difficult to exaggerate the part played by the widely ramifying Mycenaean culture on later European arts from prehistoric times onwards. Beyond the limits of its original seats, primitive Greece and its islands and the colonial plantations thrown out by it to the west coast of Asia Minor, to Cyprus, and in all probability to Egypt and Syria, we can trace the direct diffusion of Mycenaean products, notably ceramic wares, across the Danube to Transylvania and Moldavia. The Mycenaean impress is very strong in southern Italy and Sicily. More isolated Mycenaean relics have been found still further afield, in Spain and even the Auvergne where Dr. Montelius has recognized an evidence of an old trade connection between the Rhone Valley and the Eastern Mediterranean in two bronze double axes of the Aegean form."

looking and forthputting. It had in it the promise and potency of what Europe and America have now wrought out in the complex of modern civilization. But the Orient over against it had a long lead and yet kept its vigor. It was in the necessity of things that the new order should clash with the old; and the story of the Iliad is as true to the conditions now known to be historical as any passage in accredited history. The old Greek power intrenched in the Aegean is the mistress of the Mediterranean, the one great pathway of sea-trade. But seated on the opposite shore of the Aegean, commanding the ferry between the continents and with it the overland trade of the age, is a rival power — an opulent strong city which can no longer be whistled down the wind. Thanks to Dörpfeld, we can now at last go round her walls and count her towers. As long as we had in evidence only Schliemann's Burnt City — strong and opulent, indeed, but insignificant in size, and with everything to show an indefinitely earlier stage of culture — it required a truly eclectic fancy to set the Epic antagonists face to face. To-day, however, that Burnt City is important mainly as a witness that perhaps a thousand years before Mycenae was built the Hissarlik hill was already a seat of ancient power, so that the larger, stronger Troy we now know was at once the heir of the hoary East, and flourishing at the very moment when we find Mycenae in her golden prime.

The duel with the East

The protagonists of the Iliad

Paris may or may not have run away with Helen, but rapes and reprisals were inevitable incidents of the situation. The sea power in the Aegean and the land power on the Hellespont could no more avoid an Eastern Question then than can England and Russia to-day. Troy must have been a standing temptation like her last successor on

the Golden Horn. Thus it appears the most natural thing in the world to see Greece mustering her forces in the name of a common interest and against a common menace; and to see at the head of those forces the monarch of the fullest coffers and the widest sway. Whoever has mused upon Mycenae, even in its ruins, needs no unreined imagination to feel how fitting it was as a point of departure for the struggle with the East. The Achaean capital faces the West; over the lofty mountains at its back the sun rises but late. The stately palace that crowned the castle-hill, the mighty walls that still encircle it, could have belonged to no petty prince. Out of no nobler gateway than that guarded by the royal lions could a King of Men have fared forth to war. Homer has given us no picture of Mycenae except as condensed in an epithet or two, which we have found singularly confirmed in fact; but the portrait of Agamemnon has every feature touched in and, as we study the "much-golden city" in its actual survivals, we recognize the self-same features. The individual is likewise the civic portrait. We can accept Homer's chief because we know that chieftain's castle and so much of his belongings — quite enough to accredit him as a man instead of a myth, if not to justify a prose version of his achievements and his fate.

If the European protagonist is worthy of the Epic fame, not less so is the Asiatic. Agamemnon would find himself before walls as strong as his own — we may even say, still more impregnable.[1] Troy is not a mountain fortress, like Mycenae, but its elevation above the plain is nearly twice

[1] See Dörpfeld (*Ath. Mitth.* xix. 384): "Die ganze Mauer ist so solide und sorgfältig gebaut dass sie sich an Stärke und Festigkeit mit den Mauern anderer Burgen der Mykenischen Zeit messen kann; in Bezug auf Bauart und äussere Bearbeitung sie aber alle übertrifft."

that of Tiryns and it covers as large an area. It is two and a half times as large as the earlier Burnt City, and instead of the crude brick walls and houses of the older settlement, it was both built and walled in with cut stone.[1] With its scarped foundation and perpendicular superstructure wrought as smooth as the masonry of the Mycenaean domes, with its unapproachable gates and mighty towers, the circumvallation might well have seemed proof against any artillery the age could bring to bear. As it stands revealed to-day it justifies the muster of all Greece, and accounts for the ten years' siege. If those walls were ever mastered in a primitive age, we should say — what tradition avouches — that it was by fraud and not by force.

But mastered they were, though we have not — as at Tiryns and Mycenae, or in the older Troy — the clear demonstration that the town was given to the flames. In leveling down the mound of many cities to form their new site the Romans destroyed all that was left of the Mycenaean Troy except the circuit wall, with a band of buildings some forty yards wide lying inside it. With the terraced centre, which rose some twenty feet higher, the palaces and statelier structures of the Pergamos of course disappeared. Hence we cannot say whether Agamemnon's prayer was actually granted him.[2]

The sack of Troy does not end the Mycenaean story. The heroes return — that is a capital fact for us; and the κλέα ἀνδρῶν are heard in their halls. The lyre was theirs already; it appears among their remains, and we have two

[1] And it is here, at Troy, Homer tells us of "chambers of polished stone" (*Iliad*, vi. 248, θάλαμοι ξεστοῖο λίθοιο).

[2] "Zeus, most glorious, most great, god of the storm-cloud that dwellest in the heavens, vouchsafe that the sun set not upon us nor darkness come near, till I have laid low upon the earth Priam's palace smirched with smoke and burnt the doorways thereof with consuming fire." — *Iliad*, ii. 412–15.

marble lyre-players from Amorgos. In the camp before Troy Achilles is the only hero who soothes his soul with its notes, and a fellow-feeling would commend his tale to the minstrel. Thus an Achilleid of Thessalian origin may well have been the kernel of the Epic.[1]

After Troy

Meantime the glory of bygone days — the good old times — is cherished the more fondly as the vanquishers of the East feel more and more the pressure from the rude North. Even golden Mycenae finds her wealth melting away in the long resistance; the fact is attested by the cheap and slovenly character of the more recent repairs in the palace, as if economy were the first consideration. By the irony of fate the Achaean capital came to repeat the experience of her great antagonist, as Hector mournfully recounts it in the tenth year of the war:[2] —

the Dorian migration

"Of old time all mortal men would tell of this city of Priam for the much gold and bronze thereof, but now are its goodly treasures perished out of its dwellings and much goods are sold away to Phrygia and pleasant Maionia, since mighty Zeus dealt evilly with us."

How long the struggle wore on we cannot say; but at last the Dorian prevailed. The citadel was mastered; the palace given to the flames, thus bringing home to his own

[1] There is also something to be said for a Laconian Achilleid. For in hollow Lacedaemon we can trace a primitive and widespread Achilleian cult as well as a great clan that claimed to be of the hero's lineage. We may thus conceive a *Mênis* sung in the halls of Achilles' own posterity settled on Achaean soil and in vassalage to Achaean lords. In the Epic punishment is visited on Achaean pride and presumption, while the Myrmidons are avenged of the humiliations which as a subject people they might have actually had to bear.

[2] *Iliad*, xviii. 288 ff.

line the doom invoked by Agamemnon upon Troy; and even the royal tombs without the walls were rifled. Such survivors of the old stock as could not bow to foreign lords in their own land sought independence in expatriation; and not a few of them doubtless set their faces toward the regions long familiar to them. To the isles and shores of Asia Minor, the descendants of the conquerors return as refugees; and of all they carry with them the most precious possessions are the old songs.

The Achaean exodus

But we are not to think of a single stream of eastward migration. The Dorian invasion was not an isolated occurrence, but an incident of a more general movement which disturbed Greece from beyond Pindus to Cape Taenarum. In the displacements that followed, there went out to Asia Minor from all parts of Eastern Greece — from Thessaly, Boeotia, Attica, and Peloponnesus — swarms of people carrying with them their various traditions, folk-lore, and cults. In their colonial plantations these elements mixed and mingled; and out of the ferment of races and conditions arose a more complex civilization. It was a slow process. The wider world of Homer — the ultimate Homer — is too manifold and symmetrical for any mushroom growth. This is preëminently the case with the Homeric religion: it was in this struggle of tribe with tribe to establish itself anew — each under the sanctions of its ethnic divinity — that Greek religion unfolded in the marvelous form which was to remain fixed from that time forth. The Olympian system owes its symmetry to the Epos in which it first appears.[1] In this evolution of a new theology, involving now the degradation of gods to be heroes only, and again the exaltation of heroes to be gods, it is no wonder that ancestor-worship and the rites it

Rise of the Homeric world in Ionia

[1] Cf. Herodotus, ii. 53.

involved (as that of burial) were more or less radically changed.

If these tumultuous times between mighty overturnings and the rise of a new order were peculiarly favorable to religious evolution, they were not equally favorable to progress in general culture. As compared with the Mycenaean, the Homeric civilization marks decadence. The arts especially are stationary or even retrograde; and the Phoenicians have resumed their old lead in art as well as in commerce. True, the Homeric Greeks inherit many artistic principles from their Mycenaean forefathers, and their Princes still dwell in palaces not unlike those we know at Tiryns and Mycenae. On the establishment of the new order with a new accumulation of wealth, some of the old arts revive, while others have to be created afresh. Once again the Mainland receives them from the Islands and the farther shores of the Aegean; for in Greece proper the rise of the new order out of the chaos of the migrations was a slower process than in the colonies. The remnant of the old stock that still clung to the old Mycenaean seats was but a feeble folk compared with their hardy and vigorous conquerors. The Dorian, indeed, was still a barbarian, requiring the slow discipline of centuries to subdue and civilize him. Thus the Dorian migration marks the beginning of long dark ages, the mediaeval epoch of Greece, out of which she emerges only in the Homeric Renaissance. But for this great break the history of Greek art, of Greek civilization, must have followed a different course. Had these upheavals never taken place, the world might not have had so long to wait for the Phidian bloom; and again it might have waited in vain for the full-voiced song of Homer.

For it may well have been only in the presence of the

mighty towers of Troy, standing as they still stand to avouch the ancient glory of their race, that the old songs would be rounded to the immortal Epic, and put in the way of transmission to all the ages; only thus they could become the expression, not of a moment, but of a millennium, in the life of the Greek race.

We do not affirm that the tale of Troy is history, but we do claim that history may be less authentic than Homer. For a quarter century now the spade has gone on revealing landmark after landmark of the Mycenaean world; and, while large areas still wait to be explored, at the present rate of progress we shall before long be in a position to show that the chart of the explorer answers point by point to the Homeric data. Thus we are recovering the real background of the Epic. Already our own eyes scan the actual world that was familiar to the Poet's vision. We cannot make out every feature, it is true; and yet we know that world more intimately than we know many another that finds a place on the map of history. We set the epic picture against the real background, and the harmony is too close and manifold to have happened. To bring out the full measure of that harmony, we have only to go on unearthing the relics of prehistoric Greece and at the same time to delve yet deeper in the inexhaustible mines of Homer.

PLATE XXII. TROY: VIEW FROM EAST TOWER (LEFT, MYCENAE WALL: RIGHT, FOUNDATION OF ROMAN STOA)

From a photograph by Dr. Dorpfeld

APPENDIX A

THE MYCENAEAN TROY

JUST a quarter of a century ago Dr. Schliemann began his excavations in the Troad, and his untimely death in 1890 left them still unfinished. In 1893–94 they were continued by his faithful associate, Dr. Dörpfeld, and it may now be said that the main questions at issue have been settled.

Of the earlier excavations we need give no detailed account. Enough to say that prior to 1890 they had brought to light on the hill of Hissarlik remains of seven superimposed cities (as Schliemann reckoned them). The oldest of these settlements was of slight importance, measuring only 150 feet in breadth. The circuit wall and houses were built of small quarry stones and clay mortar; no bricks were used; stone implements prevailed (metal being very rare); and the pottery was usually hand-made and of a baked black clay, with perforated projections instead of handles. This panarchaic city is built directly on the virgin rock, which here lies 115 feet above sea level. Upon its remains, which form a new level from 11 to 20 feet higher, rose the second city, with its circumvallation of crude brick walls raised on stone substructions, and houses of the same character, including the palace described on page 252, with its Great Treasure (p. 178) left to attest its opulence, and its rude and often grotesque pottery, so strongly contrasting with the elegant work of the Mycenaean potter. This city had perished in a mighty conflagration, and thus was equaled in fate at least with Homer's Troy; but on the other hand the criteria of its culture obviously indicated a catastrophe indefinitely earlier than the traditional Trojan War or the actual Mycenaean age.[1]

Still the Burnt City was the sole claimant to Homeric honors, for between it and the Graeco-Roman Ilion of the uppermost stratum lay nothing but four successive strata of shabby village settlements.

Such was the state of the question in 1890, when Schliemann and Dörpfeld returned to Hissarlik, and began excavating an undisturbed mound of *débris* outside the southwest gate of the Second City, but inside the Graeco-Roman citadel. Here Dr. Schliemann hoped to find the tombs

[1] The recent excavations have brought to light three successive circuit walls, and three superimposed groups of buildings within them, showing that this city had been twice enlarged and rebuilt, but without any great change of level.

of the Kings of Troy, as he had found the Royal Graves of Mycenae; but instead of this he barely escaped discovering the real Homeric Pergamos. Above the Burnt City were now found seven distinct layers of building, and in the fourth of these, counting from above, or the sixth city in chronological order, were found remains of important buildings, with pottery of characteristic Mycenaean style and form. Dörpfeld saw the full importance of this discovery. Speaking of the Mycenaean vase finds, he says:[1]

"This circumstance not only dates the layer approximately, but allows us to draw the further conclusion that the second stratum must be older than this stratum with the Mycenaean vases, — how much older it is impossible to say, but the interval cannot have been a short one, as between the two lie three other strata of poor settlements."

That he did not at once claim Homeric standing for the new-found sixth city was due (he says[2]) to the fact that he "did not yet know whether it was a city or a citadel at all." The question would have been settled at once and under Schliemann's direction, had not the malarial summer heat compelled him to suspend operations, which he proposed resuming the next year. But his premature death left this task to his younger colleague, who in two successive campaigns has amply discharged it. In his report[3] Dr. Dörpfeld sums up the results of his work in the following conclusions: —

(1) The sixth stratum presents a stately acropolis, with many large buildings and an exceedingly strong circuit wall.

(2) This acropolis flourished in the Mycenaean age, and hence it has the first claim to be regarded as the Pergamos of Ilion celebrated by Homer.

(3) The far more ancient acropolis of the second stratum antedated the Mycenaean age, and was repeatedly destroyed long before the time of the Trojan War.

Taking 1500–1000 B. C. as the approximate date of the Mycenaean epoch to which the Sixth City belongs, Dr. Dörpfeld offers the following tentative chronology of the Hissarlik settlements: —

I. Lowest primitive settlement, with walls of small quarry-stones and clay. Primitive finds. Period (estimated) 3000–2500 B. C.

II. Prehistoric fortress, with strong walls and large brick buildings. Thrice destroyed and rebuilt. Monochrome pottery. Many objects of bronze, silver, and gold. Period (estimated) 2500–2000 B. C.

III., IV., V. Three prehistoric village settlements, built above the ruins of the second city. Houses of small stones and brick. Early Trojan pottery. Period about 2000–1500 B. C.

VI. Fortress of the Mycenaean age. Mighty circuit wall with great

[1] See his Report, Schuchhardt, p. 349. [2] *Troja*, 1893, p. 11.

[3] *Troja*, 1893; and *Ath. Mitth.* 1894, pp. 380 ff.

tower and stately houses of well-dressed stone. Advanced monochrome pottery of local fabric, and with it imported Mycenaean vases. The Homeric Pergamos of Troy. About 1500–1000 B. C.

VII. } Village settlements, one of earlier, the other of later, Hellenic
VIII. } times. Two distinct strata of simple stone houses above the ruins of the Sixth City. Local monochrome pottery and nearly every known variety of Greek ceramics. From B. C. 1000 to the Christian era.

IX. Acropolis of the Roman Ilium, with a famous temple of Athena and splendid marble buildings. Roman pottery and other objects. Marble inscriptions. Period from the beginning of the Christian era to 500 A. D.

These figures, of course, are estimates only; for the older strata they have only relative, not absolute, values.

Of the Sixth City we have left only the circuit wall, with a strip inside it some 40 metres wide. This is not due to the destruction of its core by Schliemann's earlier excavations, but apparently to Roman hands. Like other Mycenaean cities, Troy rose in terraces, the summit being at least 7 metres higher than the lowest level within the walls. On this summit would naturally stand the most imposing structures, as did the palace at Mycenae. When this city in turn was converted into a heap of ruins, the hill resumed a semi-spherical shape, and the people of the seventh and eighth settlements built their simple houses upon it. But when the Romans came to build their new Ilium they wanted a different site for their stately buildings, and this they secured by leveling down and up. Thus the core and summit of Mycenaean Troy was removed to grade up the lower levels; and we find the mighty Roman foundations of regular masonry immediately above the simple houses of the fifth stratum. And thus it is that we have only a narrow band of buildings under the walls to study.

The circuit wall of this city is still standing on the east, south, and west, — about 300 metres in all, — while the north wall, which must have been about 200 metres in length, appears to have been destroyed by Archaeanax of Mitylene, who employed the stone thus obtained to build Sigeion (Strabo xiii. 389).

A comparison of the wall circuit and enclosed area of this city with those of the Second City and the principal Mycenaean citadels yields the following results: —

1. Troy (second city)	has a circuit of	350	m.,	area of	8,000	sq. m.
2. Troy (sixth city)	"	500	"	"	20,000	"
3. Tiryns	"	700	"	"	20,000	"
4. Athenian Acropolis	"	700	"	"	25,000	"
5. Mycenae	"	900	"	"	30,000	"

Thus the Sixth City was two and a half times as large as the Second, and

equal in area to Tiryns; while its area was only one fourth less than that of the Athenian Acropolis, and one half less than that of Mycenae.

This circuit wall forms a great polygon, whose sides have an average length of nine metres. These sides are uniformly straight; there is no curve anywhere, as at Tiryns or Mycenae. Instead of meeting the next at a simple angle, each side forms a ressault, or advancing angle, standing out .10 m. or .15 m. (in a single instance .30 m.) beyond its predecessor. These projections, whose like occur occasionally at Tiryns and regularly at Gha, apparently had no further purpose than to relieve the otherwise monotonous line of the wall.

The substructure of the wall is from 4.60 to 5 metres thick, and from 5 to 7 high, and its outside surface is strongly scarped and more or less smoothly wrought. The courses are not quite horizontal, but incline slightly inward, thus materially strengthening the construction. On this foundation rises the almost perpendicular upper wall (still preserved at several points on the east) with a thickness of 1.80 to 2 metres. While one can clamber up the scarped substruction on the east, the upper wall is unscaleable; and on the south the wall is everywhere proof against escalade. It is built entirely of hewn stone more or less carefully cut, and varying in size. In the west wall the blocks are not more than .50 m. in length, while in the east they are as much as 1 m. and on the south 1.50 m. With the varying size of the blocks, the construction varies as well. Three different styles are easily distinguishable. In the west wall, where the smallest blocks are employed, skill and care are least apparent. These qualities are more noticeable in the east wall and most prominent in the south wall, where all the stones — even in the core of the wall — are hewn and the outside joints are so exact and the scarped surface so smooth that, at first glance, it might be taken for regular Hellenic masonry. In fact Dörpfeld sees in it evidence of a gradual progress in military architecture, while these 500 metres of wall were building. At Tiryns we note no such progress though the circuit is a larger one; there the hard limestone did not invite fine work. On the other hand, the Troy wall is built of the facile *poros*, which served Greek sculpture and architecture alike in their early stages.

The circuit is broken by three gates — the first, on the east, protected by a bastion formed by an extension of the wall coming from the north; the second on the south; the third (already walled up and disused during the existence of the sixth city) on the southwest. On the north, where two fifths of the circuit is destroyed, the formation of the hill renders it improbable that there was a fourth gate. The principal gate is the second above mentioned and stands in the south or southeast wall, where the castle rises but little above the adjoining plateau. Here, likewise, was the main ascent to the prehistoric (second) as well as to the later Roman city.

The gateway is 3.20 m. wide and flanked on the left by a mighty tower. This tower, as we know from the appearance of the scarped wall within it, was built on after the erection of the wall. It contains a room communicating by a door (also of later construction) with the interior of the fortress. The remains are not sufficient to determine whether this was a closed gate, or whether (as at Tiryns) the real castle gate lay further in. A second and still larger tower was discovered between this and the eastern gate, whose approach it commanded. It is 10.90 metres broad and advances 8.35 metres beyond the line of the wall; in the scarped foundation it has a lower chamber (accessible only from above) measuring 6.80 by 4.50 m., and over this a tower room projecting some yards beyond the upper wall. The third tower rises near the northeast corner of the citadel. It measures 18 by 9 m. and encloses the great well of Troy — a shaft (lined with strong walls 4.50 m. square) driven down to the native rock and some 8 m. deeper still until it reached living water. Though there were other wells within the citadel, this was undoubtedly the most important, and the tower was built expressly to protect it.

Within these walls were laid bare sixteen buildings — one of them, at least, shown to be a dwelling by a layer of ashes in the place where the hearth would naturally be. Unlike the great palace-piles we have already studied, they are usually simple separate constructions with a strong likeness to the Mycenaean megaron or the simple Greek temple. That is to say, they consist of one large chamber with a single anteroom like the simpler Mycenaean houses, though their dimensions exceed those of the great megara at Tiryns and Mycenae. While at Tiryns there is but one great hall measuring 116 sq. m., we have three at Troy measuring respectively 105, 129, and 175 sq. m.; and that, though the stateliest dwellings must have disappeared with the removal of the upper terrace. The construction also is notably superior to what we find in the Argive palaces. Instead of rubble work and crude brick we find at Troy nothing but stone, not only in the foundations, but in the walls which are regularly built of dressed blocks. In some instances the stones are so carefully hewn and joined with such precision that Dr. Dörpfeld compares the masonry with the walls of the great beehive tombs at Mycenae and Orchomenos. On the other hand, none of these buildings, with a single exception, has either pilasters or columns. That exception — possibly a temple — we have already discussed (page 306).

Whether the houses were covered in with flat or pitched roofs, we cannot determine. For the building with the columns, at least, the indications point to the gable form; the columns would seem to have been intended for the purpose of carrying the ridge-pole to support the rafters.[1] This roof-tree must have been in sections, as the length is over 15 m.;

[1] Homer's ἀμείβοντες: *Iliad*, xxiii. 712.

and it would require supporting pillars for this reason, as well as because it had the whole weight of the roof to sustain. Had the roof been a flat one, its weight would have been distributed to a number of cross-beams and there would not have been the same need of columns.

In addition to the primary task of establishing the character of the sixth stratum, which was fully accomplished, Dr. Dörpfeld made trial excavations on the plateau east and south of the walls with a view to determine, first, whether there had been a prehistoric lower city, and, secondly, to find, if possible, the burying-grounds of the prehistoric inhabitants. The first object was, in part, attained. Sure proofs were forthcoming that the plateau of the Roman lower town had been partly occupied in the lifetime of the Sixth City, though no town wall of that age was found. The second quest was less successful; for, with all the finds of Hellenic, Roman and Byzantine graves, but two urns were found which could be regarded as contemporaneous with the Sixth City. In one of these, which lay at no great depth, were remains of a burned body with some trifling articles apparently belonging to a woman; in the other, bones which Virchow pronounced to be those of two well-developed embryos.

Of the other finds there is little to say. They consist mainly of the local monochrome pottery, vessels of Mycenaean type being relatively rare. For while the Sixth City belongs to the same period and is in close contact with Mycenaean culture, it follows in many respects a course of development peculiar to itself and whose origin must be sought in local elements of a remote antiquity. The houses resemble, indeed, the megara of the Mycenaean age in Greece, but their true prototype is the palace of the Second City, which has no columns, whereas the column is a conspicuous feature in the Argive palaces. True, Mycenaean pottery is imported, but the Trojan ware is exported as well — even to Greece. At Troy the home-made ware held its own so well that in all the digging from 1890 to 1893, not more than two or three hundred fragments of the Mycenaean type turned up, and Brückner concludes that "by far the most of the pottery used at Troy was always monochrome."[1]

While it would seem from this that Mycenaean art exerted no great influence on the art of Troy, the fact does not diminish the vast importance of Dr. Dörpfeld's discovery. That discovery puts a new face on the Homeric question. To the Second City, long the sole claimant to Homeric honors, there were two serious objections: it was too insignificant and it was obviously too old. For that insignificant and primitive *Lehmburg*, we now have the strong and stately *Steinburg*, which we can confidently assign to the very epoch of the Mycenaean bloom in Greece. And in its ruins we find the actual proofs of its intercourse with the

[1] *Troja*, 1893, p. 100.

peoples on the farther shores of the Aegean. Thus the necessary conditions of the Iliad are met.

But if old objections are thus removed, a new difficulty confronts us. The masonry of the walls and houses of the Sixth City is so advanced in comparison with that of the Argive fortresses that one finds it hard to believe that this city was destroyed while Mycenae still flourished. If this masonry be actually younger than that of Mycenae, then we must find Homer guilty of an anachronism or deny that the Sixth City is the Ilios of his song. But we may leave this problem to be cleared up, as it doubtless will be, when Dr. Dörpfeld and his collaborators give us their final work on the subject.[1]

[1] Dr. Dörpfeld has taken up this point in his introduction to the present work (page xxvii.).

APPENDIX B

THE FORTRESS OF GHA AND OTHER MINYAN WORKS AT LAKE COPAÏS

THE spade of the archaeologist is not the sole revealer of the buried monuments of Greece. One can hardly dig a cellar without bringing antiquity to light. And a purely economic enterprise — the draining of Lake Copaïs — has now brought into full relief a whole series of the greatest public works of the Mycenaean age.[1] Some of these works had long been known, and we have notices of them by travelers from Wheler (1723) to our own day. Among others, Leake [2] gave a good account of the *katabothrae* and the great shafts in the Kephalari Pass; but the importance of the island-fortress of Gha quite escaped him.[3] The first searching investigations were made by Forchhammer (1836), and followed up by Ulrichs (1840); then the region was neglected again until Schliemann undertook his excavations at Orchomenos; and it was not until the great work of draining the lake, originally undertaken by a French company, had been carried through by their English successors (1893) that the vast complex of prehistoric engineering at the bottom of Copaïs, as well as above and around it, came fully to light.

Copaïs was at once the largest and the shallowest lake in Greece; in fact, it was rather a marsh than a lake, except when fed by the winter rain-fall and the melting snows of the great watershed (Helicon and Parnassus) whose basin it forms. Then its waters covered an area of 90 square miles, while in summer the lake bed for the most part was left dry. The higher arable portions were so fertile as to yield two crops a year, while the lower were rank meadows feeding great herds of cattle

[1] See Kambanis, "Le Desséchement de lac Copaïs par les Anciens," in *Bull. de Corr. Hell.*, xvi. (1892), 121 ff. and xvii. (1893). 322 ff.; de Ridder, "Fouilles de Gha," *ib.* xviii. (1894), 271 ff.; Noack, "Arne," *Ath. Mitth.* xix. (1894), 405–481. Cf. Curtius, *Sitzungsberichte der Berliner Akademie*, 1892, pp. 1181 ff., and *Gesammelte Abhandlungen*, i. 266 ff.

[2] *Northern Greece*, ii. 281 ff.

[3] He gives it no place on his map, and merely mentions it, in passing, as "an island surrounded by cliffs, the summit of which is encircled by the remains of a Hellenic (?) wall. In the enclosed space, I am told by some peasants who have been there, are some foundations of buildings, but no columns."

and swine. It was these fat lands on which the Minyans grew rich and Orchomenos became a synonym of affluence.

The lake has no outlets save by subterranean rifts in Mt. Ptoon on the north and east. There are 23 of these *katabothrae* (as the Greeks call them), through which the waters reach the Euboean Channel at Larymna, and at least two other points. The largest of them (near Kokkino) has "an entrance upwards of 80 feet high, and vaulted over by a precipitous overhanging cliff." Into this great fissure one can make his way some 175 paces before the rock-walls close in upon him, leaving only narrow, dark rifts for the water.

To conduct the water to these natural outlets, the Minyans dug three great canals through the lake, and with the earth taken out reared high embankments on either side of them. More than that, from one of the *katabothrae* — namely, that of Binia — ancient engineers undertook to tunnel through to the Bay of Larymna. Over the low Pass of Kephalari, in a line of 2,230 m., they sunk 16 shafts from 18 to 63 m. in depth, and for a distance of 500 m. had actually tunneled from shaft to shaft, thus seeking to secure a more certain and regular discharge of the waters than the natural rifts alone could guarantee.[1]

To guard this great drainage system, on which their prosperity vitally depended, the Minyans built a chain of forts, beginning with the central stronghold on Gha (under whose eastern wall one of the canals passes, while it commands the other two at Topolia), and extending from promontory to promontory around the northeastern shores of Copaïs, as well as (apparently) across Mt. Ptoon, to command the outlets on the channel. Of these fortified posts, we shall describe only the central island-fortress.

The island of Gha[2] lies about half a mile from the eastern shore of Copaïs, over against Topolia (from which it is $2\frac{1}{4}$ miles distant), and nearly east of Orchomenos. It is a great rock springing directly out of the lake, and on the northwest, where the face is almost perpendicular, it rises to a height of some 70 m. above the plain. From this point the ground gradually falls away on the west and south to half that altitude, and still more sharply to the east, the north gate being only 12 m. above the plain. Following the very edge of the rock, so as to economize every inch of space, runs the fortress-wall, — a mighty rampart some 20 feet thick, and about three quarters of a mile in circuit. It is thus the largest circumvallation of the Mycenaean Age.[3] According to Noack,

[1] Leake, Ulrichs, Vischer, Forchhammer, and Lolling credit the Minyae with this colossal undertaking; but Curtius, Kambanis, and Noack, with better reason, assign it to Crates, the engineer of Alexander the Great. (Cf. Strabo, p. 407.)

[2] This name, as well as Gla, is probably only a clipped form of the Albanian name Goulás = castle. The peasants call the place Palaiokastro.

[3] The area enclosed is about 200,000 sq. m. For the corresponding measurements of other Mycenaean citadels, see page 369.

it was not only a citadel but a city, with its palace, agora (the first of Mycenaean times yet known), and various other buildings.

Of the circuit wall, the lower course is everywhere preserved, and in places the walls are still standing to a height of 10 feet. They are built up solid (*i. e.* without any rubble core), and there is no trace of galleries, of which, indeed, the thickness (20 feet) would hardly admit. A peculiar feature of this massive circumvallation is, that at regular intervals (varying from 6 to 12 m.) the wall is set back so as to form an advancing

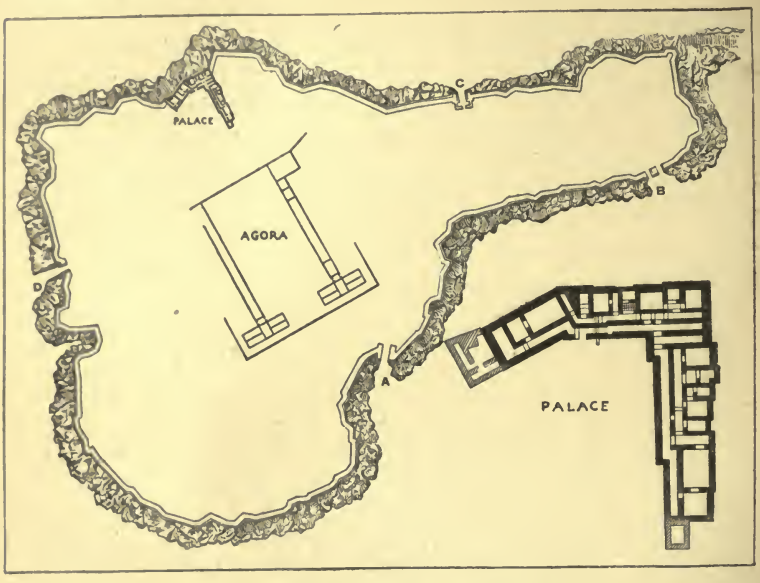


Fig. 159. Plan of Fortress and Palace of Gha

angle, — a feature we have already remarked in the wall of Mycenaean Troy, though there the average projection is only half as great. Here, as at Troy, the device seems to be only a stylistic survival, but it may afford an interesting clue to relations between Eastern Greece and Asia Minor in Mycenaean times.

The circuit is broken by four gates. The two main gates (on the south and north) are built on the same plan, each guarded on either side by a strong tower-like structure. The entrance is about 17 feet wide, and the towers from 16 to 20 feet. The gateways, as at Tiryns and Troy, are to be conceived as open passages ; but behind them lie little courts which would be closed on the inner side by strong gates. Three of the gates are provided with no advanced bastion which could indicate a purpose to threaten the

assailant's "unshielded side," but every one has the inner court to trap him. In the case of the South Gate, the west tower projects some 16 feet, and the east tower twice as far, thus resembling the disposition of the

Fig. 160. Wall of Gha (showing projections)

Lions' Gate and of the East Gate at Troy. The North Gate, approached by an easy natural ramp and only about 40 feet above the level of the plain, would seem to require this sort of strengthening more than the southern one, which is some 130 feet above the plain, and is accessible only by a narrow, steep, and rocky path. At the south-east we have a double

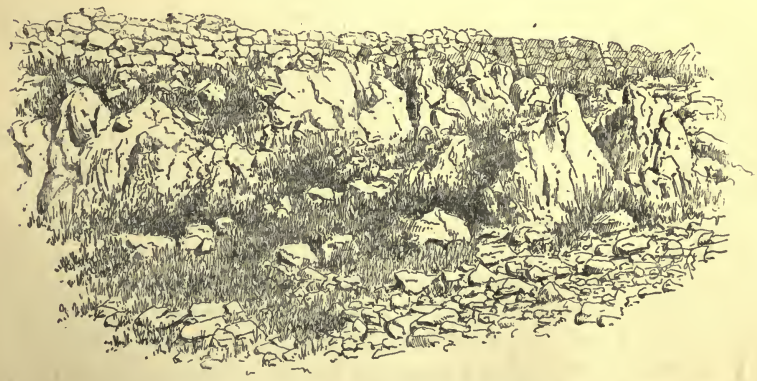


Fig. 161. Section of Circuit Wall (Gha)

gateway, on the west of which the wall projects inward as well as outward, so as to form a gate-tower some 24 feet deep. The towers still rise 13 to 17 feet above the adjoining wall, but we cannot determine their original

height. They are of massive masonry, recalling the accessories of the Lions' Gate and the avenue to the great Tholos: on the outer face we see great oblong blocks, carefully hewn and laid in regular and fairly horizontal courses, with but rare use of smaller stones for filling gaps. But side by side with this advanced masonry the *façade* of the west tower of the south gate shows genuine Cyclopean work, like that of the Argive forts; and the circuit wall is uniformly Cyclopean. Notwithstanding the different styles of masonry, there can be no question (according to Noack) that the circumvallation — gates, towers, and all — forms a single synchronous work, as at Tiryns and Mycenaean Troy, where something of the same variety obtains.

Thus far we have followed Herr Noack in his careful study of the fortress; but, when it comes to the palace, we must have recourse to the account of M. de Ridder, who excavated it and the adjoining constructions in June, 1893.[1]

"The gates and walls are minor matters compared with the palace. Ross thought, in 1834, that there were no ruins of buildings, but three years later, in 1837, Ulrichs pointed out the position of different buildings. Subsequent travelers observed (1) at the north a construction about 60 m. long and 10 broad; (2) at the west a church, which was utilized as a place of refuge by the Greeks during the War of Independence in 1821; and finally, towards the south, some further ruins, which they thought belonged to the Middle Ages. The supposed later origin of these structures was due to the presence of mortar and to plastered walls; doubtless, also, to the fact that the walls were slender in proportion to those of the ramparts. But since the same characters were found at Hissarlik, Tiryns, and Mycenae, they may be taken as certain signs of early origin. The plan of the building shows that the palace was composed of two wings, united so as to form a right angle: one follows the general direction of the wall, and, without counting the abutments, is 80.21 m. long; the second wing extends toward the interior of the island, and is 72.65 m. long. The superficial area of the space inclosed is 1,871 sq. m., which is entirely inclosed with walls, with the exception of one point toward the middle of the north wing, where was the necessary entrance. Along the entire length of the inner wall is a narrow corridor which served as protection for the rooms beyond. Even this device seemed insufficient, since only two rooms opened upon the corridor, the others being still protected by a second corridor. Into several of the rooms one cannot enter without first having passed through an adjoining room. Thus the palace itself is preëminently a stronghold.

[1] See *Bull. de Corr. Hell.*, xviii. 271 ff. By his kind permission, we use (with slight revision) Prof. Frothingham's excellent synopsis of this article in the *American Journal of Archaeology* (x. 120 ff.).

"It will be seen from an inspection of the plan that the palace is divided into a series of distinct suites, three of these occurring in the northern wing and two in the eastern. The superficial area of the rooms and corridors is very variable; the corridors average 2 m. in width. The largest rooms, as might be supposed, are those which are inaccessible except through an adjoining room. The area of the largest of these is 82.25 sq. m. At either end of the wing is found a tower. If we compare this plan with that of the palaces of Mycenae and Tiryns, we find points of difference as well as resemblance. To be sure, the Mycenaean palaces ordinarily formed an irregular quadrilateral, but the conformation of the ground at Gha led to the arrangement of two wings at right angles to each other, — one of them practically forming a cross-wall of great defensive value. As at Mycenae and Tiryns, there is a close relation between the palace and rampart. Nowhere is this relation closer than in the northern wing of the palace at Gha, which overlooks not only the plain as far as Copaïs, but the entire island and a large part of the lake.

"The internal disposition of the palace is that of an inclosure with a single entrance, and with the principal rooms preceded by a vestibule or entrance-room, and communicating with each other only by a narrow corridor. The plan is more simple in detail than at Tiryns: there are no staircases; there is but a single story, and no room has more than a single vestibule; and, finally, the rooms themselves are less spacious.[1] The conformity between this and the other Mycenaean palaces extends also to details of construction and decoration. We will study first the character of the walls, then the door-sills and floors, the decoration of interior walls, the discharging canals, and finally the fragments of vases and metals found within the enclosure of the palace.

"In the construction of the walls, the management of the materials of the outer inclosing walls and the inner walls is different. In the case of the ramparts, the method is that called Cyclopean, consisting of the use of large irregular blocks arranged in almost horizontal lines. There is scarcely any use of small stones for filling gaps, these having been replaced by clay mortar, of which there are distinct traces. The blocks are of the largest which are found on the island; and the inner wall, in this respect, yields in nothing to the exterior wall. The height of the walls is variable. At the north, where it merges with that of the rampart, it reaches 4.25 m.; nowhere is it less than 1.50 m. The interior inclosing wall is transitional between the preceding method and that of squared blocks. The blocks are considerably smaller, arranged in courses, and united by clay mortar; their thickness varies from 2.10 m.

[1] The chief megaron at Gha measures only 82 sq. m., while at Tiryns it reaches 116 and at Troy 175 sq. m.

to 1.20 m., but their height is uniform, being never over .50 m. The visible portions of these walls are carefully covered with a thick coating of plaster, which in parts is still preserved. At Tiryns we find walls of the same character; they have the same breadth, reach approximately the same height, are united by clay mortar, and covered with plaster; the only difference is that the *antae* of sandstone, which are nowhere lacking at Tiryns, are not found in our fortress.

"Corresponding to these heavy walls we find a substantial pavement. Upon a layer of juxtaposed stones was placed the pavement, made of chalk mortar. It may be raised by the pick in irregular plaques of a yellowish-white color, and when broken sends forth dust. To give the pavement more solidity, little pebbles are mixed with the chalk; on the other hand the pavement seems not to have been decorated. Almost everywhere traces of fire are apparent; the pliable plaques detached by the pick are often almost black. Sometimes dark stones penetrate the floor covering to a depth of 0.04 m., indicating a fire of some importance. In one of the vestibules eighteen large flags of bluish calcareous stone form the pavement, but this is exceptional. If we compare the pavements of Tiryns and Mycenae, we find the same kind of floor covering and successive layers, the same use of gravel mixed with chalk, the same trace of fire; and at Mycenae, if not at Tiryns, the same stone paving of the vestibule.

"Between the rooms thus paved there are thirty-nine openings of variable width; in each of these is a sill made of a single block of a bluish conglomerate not used in the enclosing walls. The thickness of these sills is approximately the same, about .15 m., but the form is very irregular; they do not occupy the entire space between the two ends of the wall, although in breadth they exceed the thickness of the walls. That each of these sills was made for a door is proved by the four hinges of bronze found in different parts of the palace. Similar sills and similar bronze hinges were found at Tiryns and Mycenae.

"Whether these rooms had any other decoration, it is difficult to say; only one room and one vestibule preserved any fragments of frescoes; it is probable that the other rooms had merely plastered walls. This vestibule was decorated in a very rich style; it contained a continuous frieze, of which it is impossible now to give a restoration, though the ornament included the Mycenaean dart inscribed with a reddish spiral. Decoration of this character occurs neither at Mycenae nor at Tiryns; it appears to be a prototype of the geometric style of ornamentation found in Boeotia. The decoration of the room was of a more simple character, consisting of painted bands of different colors.

"Under two of the door-sills were found water-conduits of pointed-arch form; the inclination, at first very gentle, increases sharply, and

the channel plunges into the ground. Their purpose seems to have been to prevent the rain from injuring the foundation of the walls. Similar water-conduits were found at Mycenae and at Tiryns, the only difference being that at Tiryns the terminations occur within the dwelling-rooms and are covered by flags of stone.

"The metals at Gha are few and used for practical purposes, and not for ornament. We have seen the hinges of bronze, the only objects of this metal found on the island. Lead is found more frequently; it is always in the form of plaques, and appears to have been used for the purpose of clamping the door-jambs to the walls. At Mycenae, Tiryns, and Hissarlik much use was made of lead; they made of it large jars to contain grain, but apparently did not employ it in construction. One of these plaques of lead shows traces of iron, but from this we cannot conclude that iron was in common use at this period. An ornamental purpose seems to have been served by the fragments of stucco found in the form of an engaged colonette. Sometimes the projecting portion is in sections, almost square, being simply rounded at the angles. Ordinarily it is in sections, a semi-circle, or (more exactly) the third portion of a circle. Finally, the fragments have been found in the form of pilasters with channelings. Anything like this style of ornamentation has never been found in any Mycenaean palace; doubtless they preferred frescoes or other decoration. In fact the only two rooms at Gha which are frescoed are not provided with these colonettes. In the frequent use of this type we see proof of hasty decoration and extreme simplicity. This use of stucco served to break the monotony of the walls. Fragments of vases found in the palace are few and without significance; they belong to two groups, — cups and bowls. The former class are too common in Mycenaean pottery and in that of Boeotia to require more than mere mention. The bowls have a flat base, are wheel-made, and occasionally recall examples found at Tiryns.

"Another large building is found between the northern and southern gate. The walls are made in the same manner as the inclosing walls of the palace, but more roughly, more rudely, and without plastering. Within these walls there is but little architectural detail. This building is contemporary with the palace. We find here the same kind of pavement, the same plaques of lead, the same colonettes of stucco, the same forms of vases, made of the same earth, turned with the same inexperience, and decorated with the same simplicity. This apparently served the purpose of a soldiers' and servants' hall.[1] Like the palace, it appears to have been built in haste, and to have been inhabited a comparatively short time. From the character of the decoration upon the vases, which approximates a transitional style, we infer that these buildings

[1] It is taken by Noack for the agora.

belonged to the end rather than to the beginning of the Mycenaean period."

More than one attempt has been made to restore to this imposing ruin its ancient name; and Noack, following up a hint of Wilamowitz, makes out a strong case for its identification with the Homeric Arne (*Iliad*, ii. 507). While de Ridder hesitates to accept this result without further proof, he remarks that, considering its situation in the Athamantian Plain and in the quarter where legend fixes the seat of Athamas, one would be inclined to see in the island-fort, if not the centre, at least one of the strongholds of his realm. He points out, however, that Gha could never have been engulfed by the waters of the lake (as Strabo affirms of Arne); rather the remains prove that, like Mycenae and Tiryns and Troy, it succumbed to the shock of war, and its palace was burned to the ground. The place was closely connected with the fortunes of Orchomenos and shared its fate. Hastily fortified, it could not withstand the assault before which the Minyan power went down, and thus it perished almost as soon as it was occupied. That the occupation of the fortress was comparatively brief is inferred from the entire absence of any provision for a water-supply, and the very inconsiderable remains of pottery or other domestic furniture. Moreover, there are no signs of any burial-place, though Noack thinks there may have been a cemetery in the plain.

APPENDIX C

RECENT MYCENAEAN FINDS IN ATTICA, SALAMIS, AND AEGINA

WITHIN the last three years the exploration of Mycenaean Attica and the neighboring islands in the Saronic Gulf has been peculiarly active and fruitful; and, while some main results have been taken up in the body of this volume, the aggregate work possesses such unity, importance and freshness as to call for a more full and connected treatment.

Prior to this time, Mycenaean landmarks had been established on the Athenian acropolis, at Menidi, Spata, and Thoricus. At the last-named place, two beehive tombs were already imperfectly known, and here the Greek Archaeological Society in 1893 commissioned Mr. Staes to make more thorough explorations. A report of his work, with drawings, appears in the journal of the Society for that year.[1]

On the slope of a mountain of considerable height a third tomb was discovered, and on the summit of the mountain were ruins of buildings belonging, as Staes thinks, to two different periods, — the Mycenaean proper and a still earlier one nearly synchronous with the oldest known Island civilization. So slight, however, are the traces of these buildings that no definite house-plan can be made out. Some houses of the earlier period had floors paved with flags, underneath which lay graves in the form of circular or oblong pits. In some of these were huge broken jars (*pithoi*) containing human bones. Near by, in the natural cavities of the rock, lay many small hand-made vases, probably funeral offerings. Pottery abounded in fragments of nearly every style, from the earliest monochrome (including vessels of the Trojan type) to the fully developed Mycenaean. The primitive vases are sometimes ornamented with incised circles and zigzag patterns. A few fragments of dull-colored unglazed vases occur, with bands, spirals, and various geometrical designs in black, red, chestnut, and white. Specimens of the second and third styles of glazed vases are also found. Of the three domed tombs, two are of novel form, being elliptical instead of circular. The larger is about 30 feet long by 12 feet wide, with a dromos nearly 19 feet long, which is

[1] Πρακτικά, 1893, p. 12 ff. Unfortunately his valuable study of "Prehistoric Settlements in Attica and Aegina" (*Eph. Arch.*, 1895 — but published only in September, 1896) came out too late to be fully utilized in this work.

closed at the farther end by a wall 3 feet thick. The sides of the dromos are hewn in the rock, like those of the chamber-tombs, resembling in this respect the poorest and most roughly-built "beehives" of Mycenae. The elliptical form is probably employed to simplify the roofing problem. The entrance is at one end of the longer diameter of the ellipse. This tomb had already been plundered, and nothing was found in it save "broken pottery of the Mycenaean period." The other elliptical tomb is very small and much injured, and is chiefly noteworthy from the fact that the dromos enters it in line with the shorter axis of the ellipse, not however at the middle of the longer side but slightly to the right. This, again, may be due to negligence or want of skill on the builders' part.

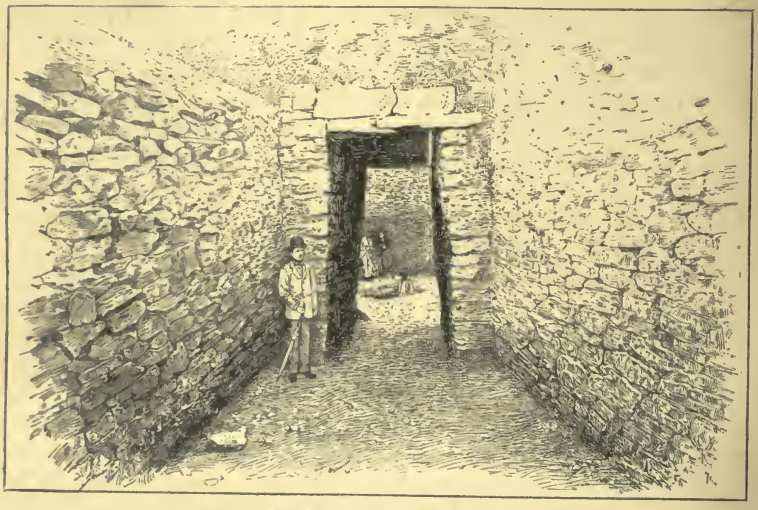


Fig. 162. Beehive Tomb at Thoricus

The third tomb, discovered by Staes himself, is of the usual circular form, and built of small unhewn stones in substantially the same fashion as the tomb at Menidi. It has, however, several peculiar features. In the first place, the two sides of the dromos are of unequal length, the one 9 yards long, the other some half a yard shorter. Again, the axis of the dromos is not in line with that of the doorway, but forms an obtuse angle with it. Finally, the axis of the entrance does not coincide with a diameter of the dome, but if prolonged would run to one side of the centre. All these irregularities again seem to betray the architect's lack of skill.

The dromos has its sides faced with stone, and is closed at the outer end by a wall nearly 7 feet high. The entrance is in no way remarkable, save that over the lintel of three large slabs there seems to have been no

triangular relieving space. However, this triangle, as we know, is wanting at Menidi, and the same seems to be true of the larger of the elliptical tombs at Thoricus.

Inside of this dome, which is 30 feet in diameter, are two quite novel quadrangular structures of small stones bonded with clay, which we may call "built" sarcophagi. One of these is $8\frac{3}{5}$ feet long, $3\frac{3}{4}$ feet wide, and $4\frac{1}{2}$ feet high; the other is some 10 feet long, $5\frac{1}{2}$ feet wide, and $3\frac{1}{4}$ feet high. These structures, no doubt, served for separate graves, like the pits in the domed tombs of Mycenae and Vaphio (see pp. 126, 130); in the Thoricus vault, indeed, we find the sunken pit along with the raised sarcophagus. There are three of these pits, one of them — containing

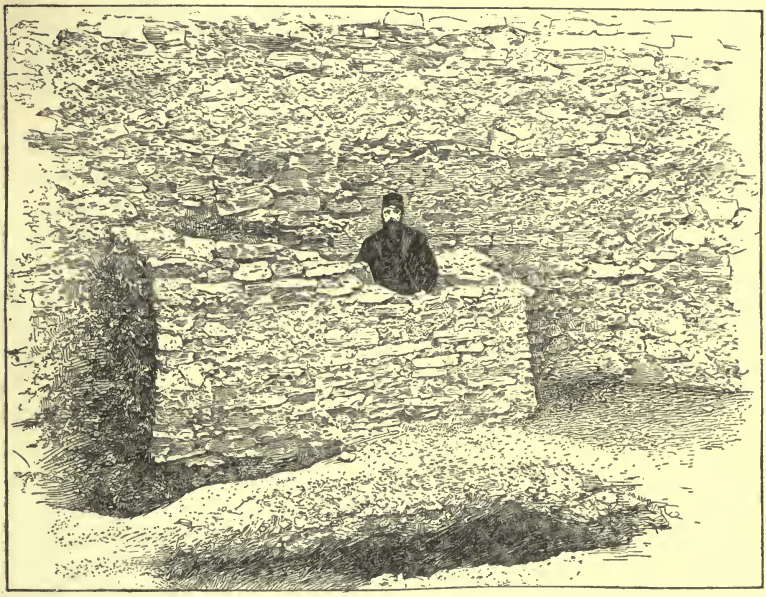


Fig. 163. Raised Grave within the same Tomb

human bones and covered with slabs — being partly built over by one of the structures in question. While the "sarcophagus" is thus shown to be later than the pit, both are clearly of Mycenaean date. The finds in this tomb include four glazed vases, a plain gold ring, a bronze mirror, a leaden disk, half of a small ivory box carved with spirals, rosettes of glass paste, stone arrow-heads, and a white marble object resembling in form the lamps found at Mycenae.

Remains as old as those of the earlier Thoricus period have also been found in the neighborhood of Kapandriti, near the ruins of ancient

Aphidnae. Here the Swedish archaeologist, Dr. Wide, has opened a tumulus of ten graves in which were found human bones inurned in *pithoi* as at Thoricus, as well as eleven old Mycenaean vases, including two of pure gold, and three gold earrings. In this connection it is to be noted that, among graves of a more recent date at Arkesinè on Amorgos, two more of these funerary *pithoi* have been found, containing very primitive vases, some of them hand-made. At Tiryns, too, not long ago, a large pithos was found with human bones in it, together with an unglazed suspension vase. It would therefore seem that this fashion of inurning the dead was then prevalent in localities quite remote from one another. The known examples are too few to warrant definite conclusions, but in any case the bodies found in these pithoi seem never to have been burned. The antiquity of the tumulus at Kapandriti is attested by the pottery, mostly small black vases, some of them clearly of Trojan type, with roughly incised decorations; and large *phialai* of the Island (Amorgos) type with ears pierced for the suspension cord.

The vases found in the excavations at Thoricus and Aphidnae throw new light on the relations existing in these remote times between the Greek Mainland and the Islands and Asiatic shores of the Aegaean.

To the strictly Mycenaean period belong three cemeteries discovered by Staes in the Midland of Attica (Markopoulo, Brauron, Prasiae), the region where the tombs of Spata had been found years ago. Like the latter, the tombs in the newly discovered cemeteries are rock-hewn chambers. Near Markopoulo, Staes found a whole prehistoric cemetery of twenty-two tombs, most of them entered by steep narrow *dromoi* like descending stairways. These had never been rifled, and yielded some 200 vases. Beside five or six bronze razors and some other unimportant objects, many lustre vases were found, some of them of a curious form and one painted with figures of women.

But the most important result of these excavations is that they enlarge our view of the wide diffusion in Attica of Mycenaean culture at its meridian prime. We have now fixed landmarks of that culture on the Acropolis of Athens, at Halike, Acharnae (Menidi), Eleusis, Aphidnae, throughout the Attic Midland, and at Thoricus, — that is to say, in nearly every corner of Attica. The oldest stages of this civilization are revealed in the finds made at Athens and Eleusis, as well as at Thoricus and Aphidnae.

If from these discoveries we attempt to draw general conclusions for Attica in the Mycenaean age, special attention must be paid to two facts, — first, that among the many centres of culture then existing in Attica, no one seems to have been so preëminent as to overshadow the rest. The Acropolis of Athens, indeed, can boast the strongest prehistoric walls, but the only domed tombs are those at Acharnae and Thori-

cus, while at Athens not even an ordinary chamber-tomb has yet come to light. On the other hand, the domes of Thoricus were probably much poorer in treasure than the chamber-tombs of Spata. We infer this from the trifling value of the furniture found in the circular tomb, the largest and best of the Thoricus "beehives," which does not appear to have been rifled in earlier times,[1] as has been supposed.

The second noteworthy fact is that entire cemeteries, with grave furniture more valuable than the usual pottery, have not yet been found in Attica; for the tholos at Menidi and the chamber-tombs of Spata, the richest of the Attic sepulchres, stand isolated and must have belonged to princely houses. But it is only the graves of the common people that can teach us the average social condition, and the cemeteries, as known to us to-day, show that this was a state of comparative poverty. This becomes more clear if we compare the cemeteries of Halike and the Attic Midland (the graves of Spata excepted) with the outlying graveyards at Mycenae. In the Attic graves not only the precious metals, but even the glass-paste ornaments, are very rare. At Mycenae, on the other hand, these last abound in almost every tomb, large or small, and even ornaments of solid gold and gold plate and objects of ivory are of frequent occurrence.

The natural inference from these facts squares with the received tradition of the pre-Thesean times, namely, that Attica was then divided into a number of independent states with their several ἄρχοντές τε καὶ πρυτανεῖα (Thucydides, ii. 15). These states were of course small, and the citizens, most of them tillers of the soil, were poor. Even their archons or kings seem to have been no richer than the well-to-do Mycenaean burgher; for, in the value of their treasures, many of the burgher tombs about Mycenae do not suffer by comparison with the tholos at Menidi. This comparison, with others that might be made, shows that Mycenae was indeed a πολύχρυσος πόλις, owing its riches no less to its power than to its relations with the East; while, at the same period, the feeble states of Attica could not afford their subjects means and opportunity of acquiring wealth either by war or in peace.

In the immediate neighborhood of Attica, Salamis and Aegina — the cradle of the Aeacids — have made fresh contributions to our knowledge of Mycenaean civilization.

In 1893 Mr. Kabbadias, the General Ephor of Antiquities, discovered on the island of Salamis, near the Navy Yard and not far from the ancient town, a cemetery of more than a hundred graves, arranged in seven parallel rows. A brief account of these excavations was published by Mr. Kabbadias in his "Catalogue des Musées d'Athènes" (Athens, 1895), and from this our information is mainly derived.

[1] But Staes maintains that all had been plundered (*Eph. Arch.*, 1895, 223 ff.)

The graves are simple quadrangular pits 3 to 4 feet long, 1⅓ to 1½ feet broad, and 1½ to 2 feet deep. The sides were lined with stone slabs, and two or three larger slabs formed a covering. The bottom was not of stone, but in some cases (it is said) there was a bed of sea sand and pebbles. But one body was buried in each grave, and that not stretched at full length (which was of course out of the question, considering the narrow dimensions), but in a half-sitting posture, with the legs well drawn up. Among the graves were two circular pits, lined with stone like the rest. One of these contained an earthen vase full of bones, the other a similar vase full of ashes. Of the style of these vases we are not informed, nor do we know what offerings, if any, were found with them; but from the descriptions we infer that these two pits are contemporaneous with the other graves. Since no other instance of cremation has yet been observed in Mycenaean times, — if we except the one reported from the lower town at Troy (p. 372), — Kabbadias concludes that the cemetery of Salamis belongs to a transition stage between the Mycenaean and Homeric epochs. That the objects found in these graves date from the very end of the Mycenaean age is entirely clear. The vases are generally small, and include false-necked amphorae, *prochooi*, two-eared vases with wide mouths, and one-eared *skyphoi*. The ornaments are the usual bands, zigzags, and spirals, and the colors are carelessly applied. Besides the pottery were found plain bronze finger-rings, and bronze fibulae of the form shown in Fig. 57, except that the "bow" is not parallel to the pin, but is much more curved. Finally, the only gold finds were small hair-clasps (spirals of gold wire), worn to hold the locks in place, as in the case of Euphorbus, — πλοχμοί θ', οἳ χρυσῷ τε καὶ ἀργύρῳ ἐσφήκωντο.[1]

On Aegina Mr. Staes has discovered, near the harbor of the modern city and close to the so-called temple of Aphrodite, remains of small dwellings, with many fragments of pottery. The site is a hill commanding both harbors, and seems to have been a primitive acropolis. The houses consist of series of chambers built of small stones bonded with clay mortar. On one side of some of these rooms there is a pyramid-shaped door much like those of the Tiryns corridors, but only about 3 feet in height. Over a portion of these ruins was built a Hellenic house of the sixth or seventh century B. C.

Some of the vases found here are glazed, and belong to an advanced stage of Mycenaean ceramic art, while others are of a more ancient type. Among these last are two large vases of the familiar "suspension" type, almost cylindrical in form, with fragments of others of the same kind; the ground is of a reddish or greenish shade, with ornaments in dull black. A similar vase has been found on the Athenian Acropolis.

[1] *Iliad*, xvii. 52.

Noteworthy, also, is a deep two-eared *phiale*, adorned with dull-black designs, which resembles those found at Kapandriti, and presents an Island type; also the upper portion of a *prochous* with a beak-shaped mouth, like types often found in Thera and other Aegaean islands; and, lastly, fragments of a large vase whose surface is covered with alternate bands of black and white, and adorned with linear and spiral designs and fine checker-work. The colors used in the designs are dull black, red and white, all put on as a varnish. Occurring together as they do, the glazed and unglazed vases seem to have been in contemporaneous use among the Aeginetans. Possibly the former were imported from Argolis or Attica, while it is likely that the older variety was of local fabric; still we cannot overlook the correspondences with the pottery of Attica (Acropolis and Kapandriti) as well as that of the Cyclades.

In connection with the regular excavations in this island we have to mention the mysterious "Mykenaean Treasure from Aegina" recently

Fig. 164. Gold Cup

acquired by the British Museum and published by Mr. Arthur J. Evans.[1] As the exportation of antiquities is prohibited by the Greek law, we are naturally in the dark respecting the history of this important find; and, in the absence of information on that head, we are at serious disadvantage in studying the treasure itself. We are not even told whether it is the plunder of tombs, like that from the Royal Graves of Mycenae, or a hoard like the Great Treasure of Troy. Nor has the finder brought to

[1] See *Journal of Hellenic Studies*, xiii. 195–226, from which, by the kindness of Mr. Evans and the Council of the Hellenic Society, we are permitted to reproduce several illustrations.

the market those commercially worthless but archaeologically invaluable finds, the potsherds and other rubbish of his deposit, which would go far to solve the problem of the treasure.

It is a treasure of gold, and consists of a cup; 4 pendants; 5 necklaces; 54 roundels for dress-trimming; 3 or 4 diadems; a bracelet of solid gold; 5 solid gold rings of nearly uniform weight, and so conjectured to be ring-money; and 5 finger-rings inlaid with glass paste.

The cup (Fig. 164) is of very pure gold, 9.6 cm. in diameter, and weighs 83.6 grammes. It had but one handle (now lost); is shallower than the two-handled goblet from Grave IV., which it somewhat resembles; and bears a design in *repoussé*, consisting of a central rosette surrounded by four returning spirals, which recall the ornamentation of a *prochous* from Grave IV.

"The gold cup with its returning spirals may be regarded as a typical example of the Mycenaean decorative style; the roundels of thin gold plate, with their volute borders and central rosette, point clearly to the same connection; and the diadems, with their punctuated patterns [consisting of a double row of returning spirals between parallel lines], show a distinct affinity to the latest fillets of the same kind from the Akropolis Grave No. IV., at Mykenae."

With the pendants, however, it is otherwise; they have a distinctly outlandish air, as will be seen from the accompanying reproductions. One of them (Fig. 165) consists of two open-work plates, the upper being embossed with the design of a man standing on a base like a lotos-tipped boat and holding two water-fowl. It is a familiar Nile scene, — the fowler in his boat seizing the trophies of his sport. At the same time it recalls Artemis grasping two swans on our gem (Fig. 96). A kindred scheme recurs on a bronze at Bologna, and on another in the British Museum. The *repoussé* design is backed by a flat plate, as is the case with the Vaphio cups; and the same is true of the third pendant (Fig. 167).

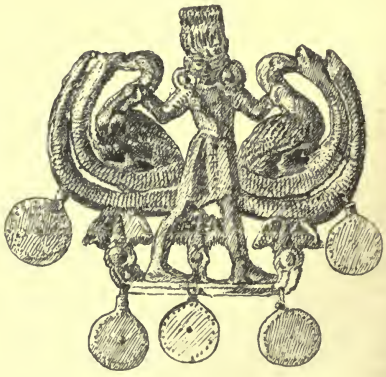


Fig. 165. Gold Pendant (width 6.2 cm.)

In Fig. 166 we have a still more outlandish design. It is one of four ornaments with open-work centres containing figures of dogs and apes, with pendant disks and owls. The dogs recall Assyrian types, while ape-hunting is a known Phoenician subject, appearing on a silver tazza from

Palaestrina. The ape, procured in Ethiopia, was sacred to Thoth and held a high place in Egyptian sacred art. The pendant owls on this and one other object of the Treasure seem to be unique, while pendant ducks

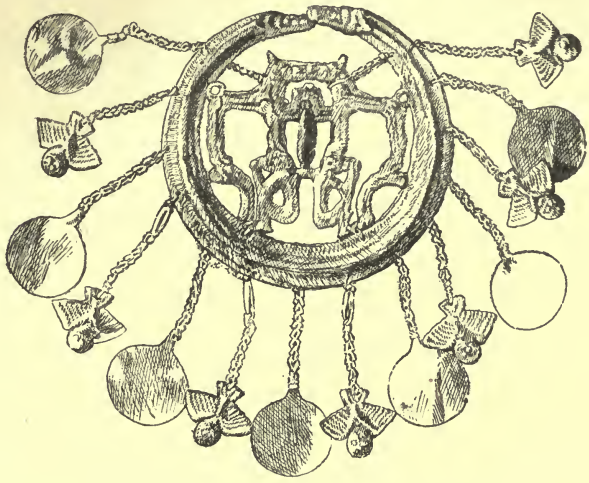


Fig. 166. Gold Pendant (size 15×11.5 cm.)

(seen in another of these ornaments) appear foreign to Egyptian art, but are common to a wide European range in the Bronze Age.

Another of these pendants (Fig. 167) consists of a flat curved plate ending in two *repoussé* heads, — the eyes and eyebrows being originally

Fig. 167. Gold Ornament with Terminal Heads (length 18.6 cm.)

filled with glass paste, of which a particle still remains, — while ten small gold disks depend from the chins of the terminal heads and the plate between them. The backing, with a thick plain gold plate, and the careful tooling of the surface, again recall the technique of the Vaphio cups.

In the treasure there are also large pendants (alternately of glass-paste and gold plate) in the shape of a hand grasping a woman's breast, from which hangs a small acorn of an olive-green stone in a gold cup. This symbolic device (which recurs in another pendant) has an evident reference to a goddess of fecundity, and finds analogies in figures of Isis and Isbar in their maternal offices. Staes has found in a sort of sacred pit adjoining the temple at Aegina a very archaic (sixth century) terra-cotta image of Aphrodite, with hands grasping the breasts, precisely as in these pendants.

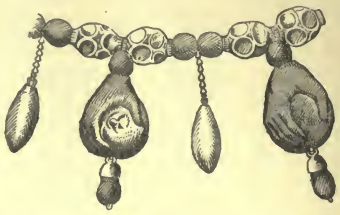


Fig. 168. Necklace of Gold and Carnelian Beads with Pendants

Among the five inlaid finger-rings, one is of singular interest (Fig. 169). "It is a massive gold ring with besil in the shape of a Boeotian shield, the interior of which is cut into narrow sockets set mosaic fashion with pieces of the blue glass paste." This shield design is thought to afford a clue to the date of the deposit. In form it closely resembles the shield on Boeotian coins from the middle of the fifth century onwards, which was even then undoubtedly an archaic monetary type; but the coins of Salamis afford a still closer parallel, even to the triple ridge around the rim appearing on our ring. Now the shield on the Salaminian coin is that of Telamonian Ajax, who was the son of Aeacus, and represents the early Aeginetan dynasty in Salamis. Thus the shield of Ajax and the shield on the Aegina ring represent an Aeakid badge, and establish a most interesting connection with the earliest Aeginetan legends. On the other hand, the shield-form appears to be derived from that of the great notched shield of the Mycenaeans. "It is therefore clear (Mr. Evans remarks) that the form represented on the Aegina ring is essentially of Mykenean origin, and the recurrence of the same type of shield as an Aeakid badge in Salamis and among the Minyans of Boeotia affords an interesting evidence of the continuity of indigenous tradition."

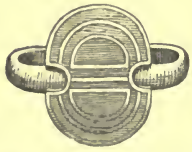


Fig. 169. The Shield Ring

The solid gold bracelet and rings raise another interesting question. The weight of the bracelet is 52.4 grammes; three of the rings weigh 8.6 grammes each, the fourth 8.7, and the fifth 7.6, — the average being 8.4 (or 130 grains). Dividing the weight of the bracelet by that of the heaviest ring (a little above the average), we find it contains 6 such units. "It will be seen that the weight of the rings, and apparently that of the bracelet too, answers to a definite standard, and there is every

reason to suppose, from their non-ornamental form, that they actually served as ring-money. Assuming that the highest weight of the rings — 135 grains — most nearly represents the original gold standard, it is difficult to avoid the conclusion that we have here an original Mykenaean standard. The conclusion is in fact strikingly corroborated by the deductions already drawn by Professor Ridgeway from a study of the rings and spirals found by Dr. Schliemann in the shaft-graves of Mykenae. They, too, were based on a gold stater of between 132 and 137 (approximately given as 135) grains, the exact weight independently arrived at from the still more striking evidence supplied by the Aegina rings. Thus it appears that the metric system, employed in Aegina at the date when this treasure was deposited, goes back to the palmiest days of Mykenaean civilization, and in all probability to at least the sixteenth century before our era. The evidence before us shows that this system was maintained intact on Greek soil to the borders of the historic period, when it comes to light again in the standard weight of the Ionian Greeks, and finally, as the Euboic and Attic standard, regains its supremacy in the Greek world."

Taken together, this Aeginetan treasure affords happy illustration of the after-bloom of Mycenaean art (see page 324). For there can be little doubt that these jewels are of native fabric. Some of them — as the gold cup, diadems, and roundels — are unmistakably Mycenaean. The shield of the ring is at once traditionally Mycenaean and historically Greek. On the other hand, even the singular fowling scene (Fig. 165) recurs on a Dipylon vase from Athens. And (as Evans maintains) all the jewels hang together: "the whole series is of the same fabric; they were wrought in the same workshops for the same *parures*. We may venture, then, to regard the objects as of Greek workmanship, though under strong Asiatic and no doubt, to a great extent, Phoenician influence. That preponderating influence is of great value in affording us some chronological clues. It must be regarded as showing that the great days of Mykenaean culture were already drawing to a close, and that the earlier Thalattokracy of the Aegean was giving away before Sidonian enterprise."

The date for the deposit of this treasure, to which various lines of evidence converge, is approximately 800 B. C.; and up to that time "we must infer that Aegina had remained a stronghold of Achaean power, and still upheld something of the traditional culture of Mykenae. From the wealth of gold contained in the hoard itself, we may gather that in those days of Achaean depression the island folk had retained something of the well-being of old times, and that the commercial prosperity, that distinguished Aegina in the early days of classical Greece, went back, in fact, to an older period."

The metric evidence points the same way. The early Aeginetan coins, first struck in the seventh century B. C. under Pheidon of Argos, conform, not to the Mycenaean, but to another standard, possibly of Phoenician origin. Hence it follows that the hoard was deposited not only before the reign of Pheidon, but before the Dorian conquest of the island, which would thus be dated later than 800 B. C. The deposit of the treasure itself may not improbably have been connected with that event.

ADDENDA ET CORRIGENDA

Page 9, line 10 (cf. p. 116). Only one "beehive" construction has been found at Eleusis; and that is probably a reservoir of post-Mycenaean date.

Page 21, line 10. *For* 20 *read* two.

Page 24. Dr. Dörpfeld no longer holds the view here expressed, as the borings in question have been shown not to be ancient.

Page 28. The latest excavations prove that the wall of Mycenae was not notably stronger on the N. and S. than elsewhere, and nowhere of the thickness (46 feet) estimated by Schuchhardt.

Page 36, line 6. Strike out the words "cut in the rock or."

Page 57, bottom. By an oversight, the drawing mentioned in the text has been omitted.

Page 115. Three more beehive tombs have recently come to light in Northern Greece. One of these, at Goura in Phthiotis, was discovered in April or May (1896) by lime-burners, and promptly converted into a lime-kiln. It resembled the tomb at Demini, was closed by a great oblong stone, and yielded various gold and silver ornaments as well as finely painted vases. If we can trust the report in the Ἄστυ, there were also terra-cotta whorls bearing hieroglyphics and designs like those found by Schliemann at Troy. The other two beehive tombs are on the southern slopes of Ossa (northeast of Larissa). They are small (3½ to 5½ m. in diameter), but conform to the strict type, being built up of stone and opening by door and dromos. They contained little except pottery, and that comparatively late, judging from the decorations, though there are forms which recall the prehistoric Island types, and one vase with a beak spout much like those from Grave VI. (*Ath. Mitth.*, 1896, p. 246.)

Page 116. A ninth tholos has since been found at Mycenae. Of the tombs at the Heraion but one is a tholos, the other two — found by the American School — are chamber-tombs.

Page 130. Four of the nine beehive tombs at Mycenae had each two or three pit-graves dug within the rotunda. Up to December, 1896, the chamber-tombs discovered at Mycenae numbered 99.

Page 130, line 18. *For* App. D *read* App. C.

Page 153, top. This stele has now been cleansed, drawn by M. Gilliéron, and published by Dr. Tsountas in the "Ephemeris Archaiologike" (1896, Plates 1 and 2). It proves to be a work of singular interest. Originally a sculptured tombstone, it was afterwards plastered over and

frescoed. Where the coating is broken away at the top, we see part of the chiseled design, — two bands of circles connected by double parallel lines. Of the fresco design in three horizontal zones, the uppermost is in the main lost, the other two are fairly intact. The surprising thing is to find the central zone filled by five warriors in the act of hurling their spears: in attitude, armor, dress, drawing, the design exactly repeats that on the reverse of the Warrior Vase (Plate XX.). The bottom panel is taken up by four deer, with a hedgehog to fill the corner above the hindmost. The top zone appears to have been occupied by three seated figures, one of which can be pretty clearly made out. Hence Dr. Tsountas is inclined to interpret the monument as presenting three phases of heroic life, — the council, the battle, and the chase. The close relation of the central design to that of the Warrior Vase is unmistakable, though it is impossible to say whether one was copied from the other or both from a common original.

Page 184, line 30. In fact, one fifth of these roundels (145 out of the 700) have one or two holes for the purpose of fastening them to the dress.

Page 202, lines 7, 20. The black is not laid on the gold, but belongs to the ground of the design — the enameled bronze plate; and the black parts are brought out by removing the gold.

Page 219. Fig. 104 represents not a chain, but 50 gold ornaments, arranged as they appear to have been sewn upon a ribbon for a lady's brow or hair. They were found in 1895 (not 1892).

Page 227, line 10. The description is inaccurate. Both inside and outside plates are fashioned and joined by the hammer without seam or rivet. The rivets are used only to fasten on the handles.

Page 229. On resuming excavations inside the Mycenae acropolis (summer of 1896), Dr. Tsountas found an interesting sculpture which is not yet published. It is a beardless head, almost life-size, wrought of *poros*, overlaid with stucco, and painted in colors that are remarkably well preserved. The work is of the Mycenaean age.

Page 388. In the houses on Aegina, as well as on the hilltop at Thoricus, Staës found graves in which the dead were buried in *pithoi;* and at Aegina niches in the house-walls for the same purpose. In one of these niches lay the skeleton of a babe, and beside it two tiny vases like those found in the children's graves on the Athenian acropolis. According to Staës, the acropolis upon which these houses are found is pre-Mycenaean; while the Mycenaean acropolis is to be looked for on an eminence farther north, where Mycenaean tombs have been discovered. From one of these tombs, it is claimed, came the treasure now in the British Museum. There is no doubt that objects of gold — probably a part of this treasure — were found in a tomb there; but Staës denies that the treasure can be from a single tomb or compose a single find.

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ABBREVIATIONS

H. Homeric. M. Mycenae, i.-vi. indicating the Royal Graves. O. Orchomenos. T. Tiryns. V. Vaphio.

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